The Coloured Atlas of Medicinal and Aromatic Plants of Jordan and Their Uses (Volume Two)

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By

Jamal Ragheb Said Qasem

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DEDICATION

- In the name of God, who created, invented and sustained all these wonderful, valuable, diverse plant species, His mercy and His blessing, and who said "We will show them our signs in the horizons and within themselves until it becomes clear to them that it is the truth. But is it not sufficient concerning your Lord that He is, over all things, a Witness?" (Sura Fussilat 041-053).
- To my homeland and to all who bless its soil.
- To the memory of my parents, who made sacrifices for my education and taught me that the land is faith and life.
- To all my grandchildren, to learn and to know the value of the source and the product.

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PREFACE

Authoring a reference book on an important subject utilized daily by the public, traders, readers and researchers is not an easy task in the absence of well-planned and well-conducted academic research and real scientific information. A huge number of reference books and an overwhelming amount of articles on medicinal and aromatic plants are available in local markets, bookshops, libraries, and many herbal stores and shops specializing in folk medicine trades and preparing, formulating and selling these plants or their materials; some are of an acceptable history and accumulated experience while others are recently founded and have little or no experience but are rather invested in this field. All these sources mentioned, in addition to the public's inherited experience on the utilization of these plants in folk medicine, herbalism and traditional herb practices and their knowledge on plant-based medications that have been passed down from one family to another within communities, have created a great demand for knowledge on these species' use in medication. However, many of the available reference works have been gathered, compiled or prepared by non-specialists, which casts some doubt on their information, which may negatively add to our knowledge or even be confusing. In addition, many authors, researchers and project leaders in this field of science are either not specialists or are unfamiliar with medicinal and aromatic plants, and thus their results and reports may lead to random public use of these species in folk medicine, which could result in permanent illness or death.

Aromatic and medicinal plants are renewable resources for drugs, the medicinal industry, cosmetics, perfume and pesticides. Many species are toxic if used fresh or in crude forms, or may be so at a certain stage or under specific conditions. Others are extremely poisonous when internally taken, used in high doses, or when repeatedly applied or utilized for a long period. Some are also effective for curing local inhabitants but are not so for foreigners, hence the statement of Hippocrates that one should "treat or cure each patient by plants of his own land which are most appropriate to restore his health and recovery from illness". The active constituents of these plants are not produced or synthesized, but are only available under certain conditions or at a certain time of the day, season or year and only in certain plant parts.

As an author, agriculturalist, weed science specialist, lecturer on medicinal and aromatic plants, and researcher, I have reviewed the literature and gathered exact and correct information on these important species in drugs and in the industry, as reported and confirmed by different authors. However, many of the reported species in this book have not been fully researched or studied and their active constituents are still unknown. I should indicate that I am not the author who examined or proved species' effectiveness and their safe use against the illnesses and diseases reported in this book. Therefore, self-medication using these species or in folk medicine is the responsibility of the user, who should always seek medical advice from a specialized practitioner. The book is an important source of scientific information, but is certainly not a guide for self-medication. It emphasizes wild grown species, which hence are unfamiliar to the public; many cause health difficulties if misused but are important for investment and the ecosystem. However, with the world's increasing interest in natural products and herbalism, medicinal and aromatic species gain priority as renewable resources for such natural chemicals, and more research and development is needed.

Finally, I do not claim that the species reported are all that occur in Jordan's flora, especially in the absence of actual academic research or survey studies. I should indicate that many species occurring in local habitats lack basic information with regard to their biology, ecology and importance, and are only listed as wild species of an unknown value or as common weeds. However, this atlas introduces 769 plant species (209 are cultivated and 560 are wild grown) occurring in Jordan belonging to 119 plant families, and all are listed with necessary information. The atlas presents a full colour photo for each species for readers to become acquainted with the species presented and shows their values to the national economy and environment.

Jamal R. Qasem

ACKNOWLEDGEMENTS

First, thanks to God for completing this reference book and making it into a reality for the scientific community, students, researchers and interested public readers in this important branch of science. Creation, health, toxicity, wellness, sickness, recovery, drugs and cures all are from and by God, and must lead any who deeply think on creation to become a believer. The Holy Qur'an says, "Those who remember Allah while standing or sitting or [lying] on their sides and reflect on the creation of the heavens and the earth [and say] "Our Lord, You did not create this aimlessly; exalted are You [above such a thing]; protect us then from the punishment of the Fire"" (Ali-Imran 003-191). I would like to express my gratitude to the Deanship of Academic Research at the University of Jordan for approving and funding this project. I also thank Miss Hadeel Bdair and Mrs. Dina Al-Hattab for their part-time technical assistance during the early preparation phase of this project; thanks are also extended to Mr. Madi Al-Abbadi for joining me on field trips, Mr. Alex Monaghan for proof-reading the manuscript and the Cambridge Scholars Publishing family for printing and publishing the book. Thanks to my wife and sons who supported and encouraged me throughout the whole period. Finally, to all friends and colleagues who encouraged me to complete this project and highly valued its importance, I say thanks, and to others who thought its completion would not be an easy task, or even an impossible one, I say your feelings were behind my persistence and insistence to complete this work. Having realized the merits of its publication, I offer it to all who are homesick and in love with scientific research, who devote their lives to their homelands, and who believe in history and originality.

INTRODUCTION

The history of utilizing plants for their healing properties is as old as man himself. The first man on earth was searching for plants that would fulfil his needs of food, shelter, medicine and beauty then, later, as feed for his animals. He recognized useful plants, and protected and increased their number, productivity and/or the area they occupied, while other plants of unknown values or which were poisonous were ignored or severely controlled. However, in the absence of historical documentation on the exact date, the grave of a Neanderthal man buried 60,000 years ago reveals that the connection between plants and human health has existed for thousands of years. Such a link has also been confirmed through the drawings on graves of Ancient Egyptians and documented in medical hieratic papyri. Mesopotamian prescriptions and the medicinal substances of the Babylonians and Sumerians are available from the era of Hammurabi's laws on plants' uses in medication with full details on diseases, plants' doses, formulations and the time at which these were used. Some species, however, were also found to have grown in biblical gardens. The great historical documents on medicinal plants' uses in human medication have also been found in China, Greece, India and some European countries. However, many of the plant species used in history for healing certain ailments or against certain diseases have also proved effective against the same diseases in modern medicine; some formulations have been changed, while others are still used as they were when they were first prescribed.

Plants are a renewable resource for human drugs and veterinary medicine. Medicinal and aromatic plants represent a significant component of the natural ecosystem and agroecosystems, play an important role in industry and add significantly to a nation's economy. Many are used as drugs and drug additives in perfumes, cosmetics, food, flavouring agents and spices or as a source of natural pesticides. With the trend towards rapid urbanization, people became more concerned about their food, drinks, drugs and environment, and more interested in a safe habitat, a clean environment, a hazard-free life and their welfare. Although many countries have traditionally adopted a natural system for their food and drug production, and folk medicine is widely practised, others are more restricted and dependent on synthetic or manufactured materials as a main source of food and products. However, with better awareness of the problems that the second system created for human health and the environment, natural products became more attractive for health, industry, and investment in food and drugs, and thus more attention is given to protecting the natural ecosystem. In this context, using natural resources and organic food production in the drug industry is highly respected. Considering the above-mentioned reasons, and the possible risk in using synthetic drugs and other chemicals on human health and the environment, people worldwide have turned back to nature's chemicals. While 400,000 chemical compounds are estimated to occur in plants, only 10,000 have been isolated and identified as secondary metabolites of different uses. This huge number of plants' natural chemicals could greatly serve and fulfil humanitarian needs in all fields.

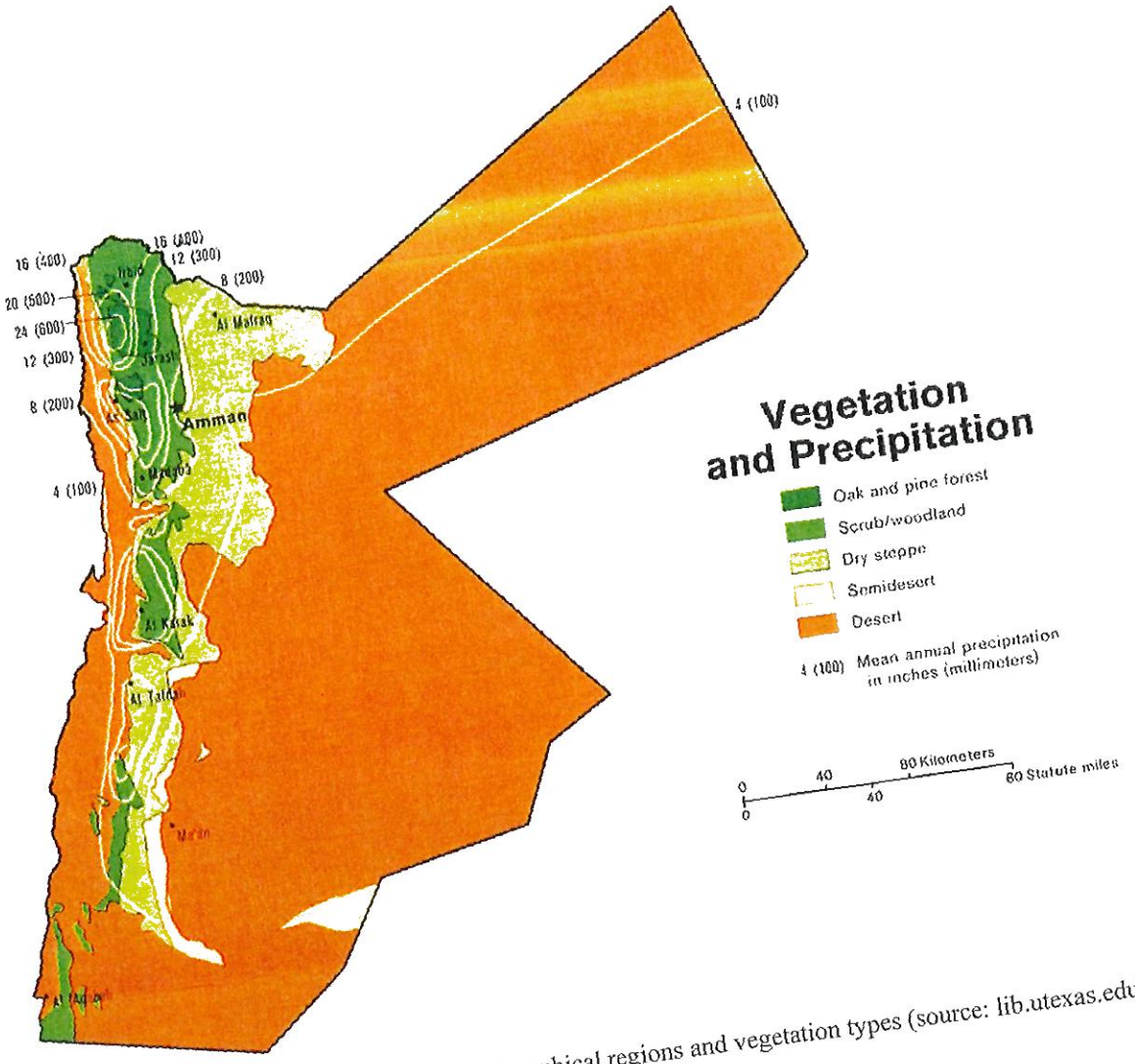
In Jordan, almost 2,500 plant species have been reported to occur in the country, accounting for about 1% of the total number of plant species known in the world. Among these, 350 to 500 are regarded as useful in medicine and cures, and many of these are also used in food and for other purposes. The main issue is the absence of a drug industry and the complete reliance on imported chemical drugs and pesticides. This declined levels of interest in these species and investment in their production. In addition, harvesting, heavy grazing, war, drought, salinity, low rainfall and housing construction have created unfavourable conditions for the plant population's expansion in natural habitats and/or their cultivation. All have contributed to placing many plants in endangered or threatened categories despite the diverse environmental conditions, extending from tropical and sub-tropical to the Sahara-Arabian, that create ideal environments for a wide diversity of such species or others in the country.

The present book is divided into three volumes: the first is devoted to cultivated plant species while the second and the third cover wild grown species. Plants are arranged alphabetically based on their scientific names, regardless of other factors. It is a reference book that includes basic information on medicinal and aromatic species in Jordanian flora, emphasizing their importance in the drug industry and the natural ecosystem. It is of value for the general public, folk medicine practitioners and the drug and chemical industry. The scientific merit of this publication is clear for certain university departments, including medicine, pharmaceutical, scientific and agricultural faculties.

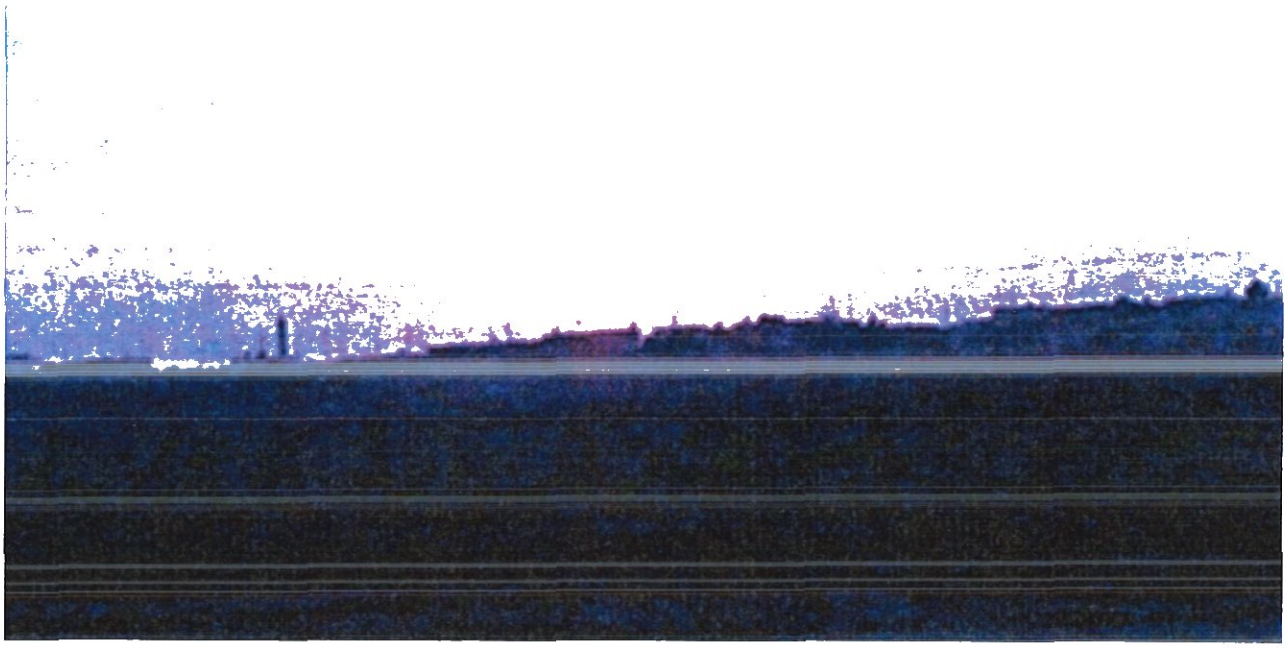
I have full faith in the work and hope that the book highlights a number of medicinal and aromatic plant species in Jordan and provides interested people with useful knowledge on each. Finally, thanks to the Lord who greatly helped me in finding, identifying, directing and finishing this work and, above all, who created these beautiful plants that maintain their secret curing recipes for many difficult human and veterinary diseases that specialists have no solution for and which are only stored in these peaceful, sensitive, and sometimes endangered or threatened plants. The book emphasizes wild species unfamiliar to the public that have been ignored or severely prevented from sowing their seeds or producing propagules to maintain their genetic lines and exist in nature. Thanks to the creature that organized and managed the life of all living organisms to exist and have strong ties to fulfil the needs of all. Man does not know all benefits of plants; many are still hidden and are only discovered through research, and therefore each species may be

regarded as a natural pharmacy that includes all drugs necessary for humans. Each species has some sort of beauty and it is our goal to search for and discover them. However, man, who we started with, is himself responsible for the eradication, killing and disappearance of these species in his habitat, which should have instead been protected, increased and developed.

The author



Map of Jordan showing the country's biogeographical regions and vegetation types (source: lib.utexas.edu)



With each sunrise, a new day starts that brings a huge amount of knowledge for those who want to learn.

VOLUME TWO

WILD MEDICINAL AND AROMATIC PLANTS OF JORDAN

- **Arabic name**: Babonij Saghir
- **Scientific name**: *Aaronsohnia factorovskyi* WarbEig.
- **Common name:** Faktorovsky's Aaronsonia, Yellow Chamomile
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Flowers, and the whole herb
- **Chemical constituents**: Aromatic oil, tannic acid, and glycoside.
- **Pharmacological action**: The plant is a carminative, diuretic, and useful for enteritis and kidney colic.
- **Other uses**: A wild flower
- **Caution**: No reports.

Plant population

- **Arabic name**: Sallam
- **Scientific name**: *Acacia asak* L.
- **Common name**: Cassie
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Tree
- **Life cycle**: Perennial
- **Part/s used**: The bark
- **Chemical constituents**: Psychoactive alkaloids, and tannin.
- **Pharmacological action**: Extracts of the bark are effective free radical scavengers. The stem cortex is used for gastric ulcers and skin diseases. It is an antiseptic and aromatic plant. A bark decoction is taken orally for dysentery and abdominal cramps.
- **Other uses**: It is an ornamental roadside plant.
- **Caution**: No reports.

Flowering plant

Plant population

- **Arabic name**: Acacia, Talh
- **Scientific name**: *Acacia gerrardii* Benth (*Vachellia gerrardii* (Benth.) P.J.H.Hurter)
- **Common name**: Acacia Negev, Talh
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Tree
- **Life cycle**: Perennial
- **Part/s used**: Bark, roots, gum, and the whole plant.
- **Chemical constituents**: Gum, protein, tannin, volatile organic materials, cellulose, and fibres.
- **Pharmacological action**: The plant is used for burns, fevers, sore gums, to loosen teeth and toothache. A bark decoction is useful for dysentery and abdominal cramps. The bark can be chewed or used as a tea to treat coughs and throat ulcerations. Bark and root teas are useful for diarrhoea and to alleviate stomach ailments. The bark is also used as a component in ailment reliefs and pulmonary troubles. Gum is used as an active drug ingredient carrier.
- **Other uses**: An industrial species, ropes and threads can be made from its fibres and especially from the phloem tissues. Its wood is used for stoves, coal, carvings, furniture, poles and tools. It is a forage plant, and its leaves and pods can be eaten by goats. It is an excellent plant for honeybees.
- **Caution**: No reports.

The pods

- **Arabic name**: Anbar Al-Neel
- **Scientific name**: *Acacia nilotica* (L.) Willd. ex Del. (Synonym: *Acacia arabica* Willd.)
- **Common name**: Nile Acacia, Babul, Gum Arabic Tree, Egyptian Thorn, Prickly Acacia
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Tree
- **Life cycle**: Perennial
- **Part/s used**: Leaves, bark, stem, pods, and gum.
- **Chemical constituents**: Amines, alkaloids, cyanogenic glycosides, cyclitols, fatty acids, seed oils, fluoroacetate, gums, non-protein amino acids, terpenes (including essential oils, diterpenes, phytosterol and triterpene genins and saponins), hydrolysable tannins and flavonoids. The plant is also rich in cystine, methionine, threonine, lysine and tryptophan amino acids, and minerals including potassium, phosphorus, magnesium, iron and manganese. It contains diester, pentacosane dioic acid, dihexadecyl ester and, heptacosane 1, 2, 3-triol.
  Seeds contain phenolics of m-digallic acid, gallic acid, protocatechuic and ellagic acids, leucocyanidin, m-digallic dimer 3,4,5,7-tetrahydroxy flavan-3-ol, oligomer 3,4,7-trihydroxy flavan 3,4-diol and 3,4,5,7-tetrahydroxy flavan-3-ol and (-) epicatechol. Mature seeds also contain crude protein, fibre, fat, carbohydrates, potassium, phosphorus, magnesium, iron and manganese at high concentrations. Fruit contains mucilage and saponins. In the pods are gallic acid, Me-ester-n-digallic acid and tannins. Leaves contain apigenin, glycoside, rutin, and protein. The bark includes tannins, saponins and glycosides, phlobetannin, gallic acid, protocatechuic acid pyrocatechol, catechin and epigallocatechin-5,7-digallate. Roots contain octaconsanol, betulin, B-amyrin and B-sitosterol. The gum is composed of galactoarabinan.

A leaf and flower extract showed the presence of pentadecane, phthalic acid, neophytadiene and benzyl alcohol.

- **Pharmacological action**: *Acacia nilotica* is rich in bioactive secondary compounds. The plant is used for scabies and skin diseases, inhibits hepatitis C virus (HCV) protease, and is astringent, antiseptic, demulcent, purgative and tonic. A decoction of gum is used for diarrhoea, dysentery and constipation. The bark is important for eczema and leucorrhoea while the leaves are useful in epiphora treatment. The gum is a useful adjunct to medicines used for pulmonary and catarrhal affections. The plant is used for boils, cataracts, intestinal pains, diarrhoea, colds, diabetes, swellings and toothache. It is also important as an anticancer, antitumour, antiscorbutic, astringent, anti-oxidant, natriuretic, antispasmodic and diuretic. It is used as a nerve stimulant, and against congestion, coughs, dysentery fever, haemorrhages, leucorrhoea, ophthalmia and sclerosis. The seeds have anti-malarial, anti-diabetic, anti-hypertensive and antispasmodic activities. The leaves and pods are anti-inflammatory, the pods have molluscicidal and algicidal properties and the bark is used for haemorrhages, colds, diarrhoea, tuberculosis and leprosy. The root is an aphrodisiac and the flowers treat syphilis lesions. The gum is a suspending and emulsifying agent and is used in the preparation of many formulations. The plant has antimicrobial, anti-malarial, and antioxidant activity since it is rich in polyphenolic compounds and helps with the prevention and cure of various oxidative stress-related diseases including cardiovascular and neurodegenerative diseases. Kaempferol is the main chemical responsible for the plant's antioxidant activity. The plant also has anti-platelet aggregation, anti-quorum sensing, vasoconstriction, anti-mutagenic, cytotoxic, and anti-hepatocarcinogenic activities. A bark extract prevented hepatic malondialdehyde formation and reduced glutathione in rats, reduced liver injury and restored liver cancer markers. Traditionally, *Acacia nilotica* ssp. *adansonii* can stimulate milk production in lactating women.
- **Other uses**: The plant is used for miswak, timber, fuelwood, fodder and in the tanning industry. Acacia resins repel insects.
- **Caution**: No reports.

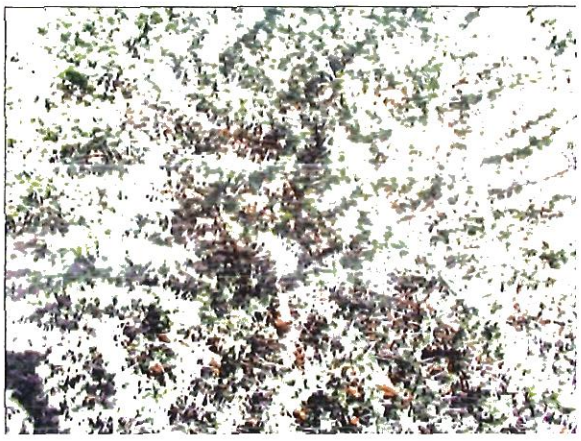
- **Arabic name**: Acacia, Samar, Sial, Sant Lawlabi
- **Scientific name**: *Acacia raddiana* Savi (Synonym: *Acacia tortilis* (Forskal) Hayne)
- **Common name**: Acacia, Shittim
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Tree
- **Life cycle**: Perennial
- **Part/s used**: Leaves, pods, gum exudates, bark, and roots.
- **Chemical constituents**: Tannins, gum, polysaccharide, and alkaloids.
- **Pharmacological action**: It is a vermifuge, anti-diabetic, hypotensive, anti-tussive and anti-diarrhoeal; the plant also cures leucoderma, oedema and allergic dermatoses, skin infections and inflammations. *Acacia raddiana* is also useful for the treatment of various diseases like coughs, and it is a well-used plant by locals. Commercially, tannins derived from the bark are used as a dyestuff, pods and gum are used as food, and the leaves are diuretic and useful for the treatment of various diseases like skin allergies, diabetes, and hypertension. Plants' bark powder heals wounds and showed strong activity against *Candida albicans,* moderate activity against *Aspergillus niger* and may be used as an effective antifungal agent. Bark tannins prove useful in cattle suffering from diarrhoea. Extract of the pounded stem bark is gargled to treat mouth infections and dental problems, and is useful for infectious diseases. In dry coughs the plant is applied on burning charcoal and smoke is inhaled nasally. The root is used for coughs and diphtheria by burning charcoal for its smoke or by soaking crushed roots in water, which is taken orally. For wounds, the heated leaves or roots or their paste are applied topically. Root bark possesses antimalarial activity but would not be considered for follow up as an antimalarial candidate. An aqueous extract is used in cases of hyper-cholesterol and inflammation, decreased serum total cholesterol and LDL levels and increased serum HDL-cholesterol and decreased body weight. *A. raddiana* inhibits prostaglandin biosynthesis and PAF-induced exocytosis, and is effective for inflammatory reactions and febrifuge. The plant's methanol extract is used for leishmaniasis and parasitic disease, and showed moderate activity against *Plasmodium falciparum*. Pods and seeds of *Acacia raddiana* were recorded as a serious pesticide. Spines act as an effective form of antiherbivore protection, and they might be expected to increase their production of physical defences (long spines) under such circumstances. It is a disinfectant used for dermatitis, asthma and as an emollient. It is also effective against sore throats, ophthalmia, jaundice and bone pain. The gum is used like Arabic gum in folk remedies. The bark is used as a vermifuge and dusted onto skin ailments.
- **Other uses**: The leaves of young trees are browsed by goats and sheep, but the main value of this species is in its pods, which can be very numerous and eaten by livestock. The plant is also used for the production of

firewood. Soil under *Acacia* trees has more organic matter, including nitrogen, phosphorus, calcium, magnesium, sodium and potassium. It is a multipurpose tree of economic and environmental importance. Its fruit is edible, its flowers are used for beekeeping, and its wood is good for coal and construction. The yellow and brown dyes are used for leather tanning.

Mature pods are often the main source of food for cattle, sheep and goats. The plant is used for timber, poles, posts, fuel and charcoal. The pods, bark and roots are used in tanning. The plant's particular value in arid zones lies in its extreme resistance to heat, drought, salinity, alkalinity, drifting sand, grazing and repeated cutting. Some of the Acacia species are of considerable value for re-forestation and the reclamation of wasteland. The gum is used in food.

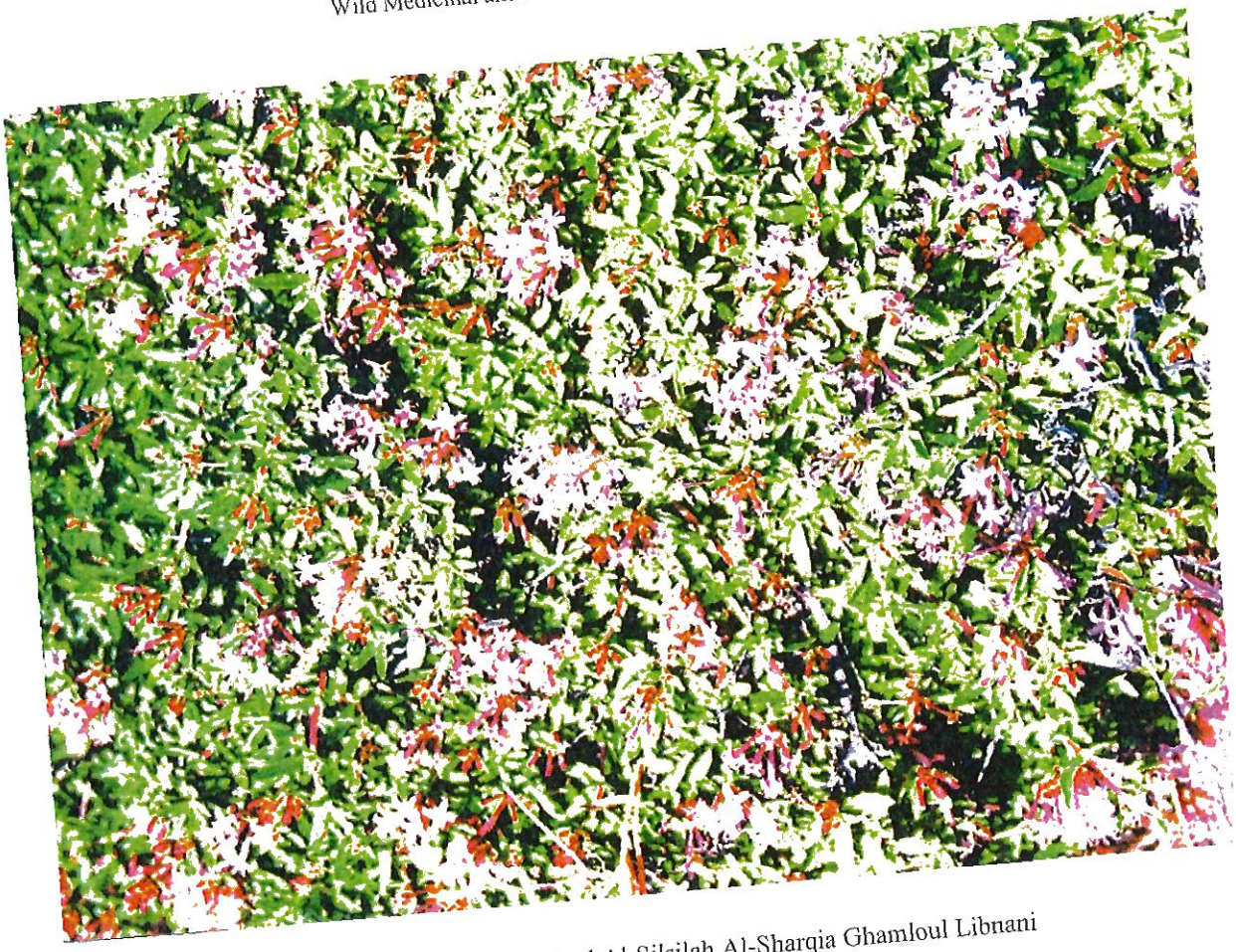
❖ **Caution**: No reports.

Fruits' (pods)



Spiny branches

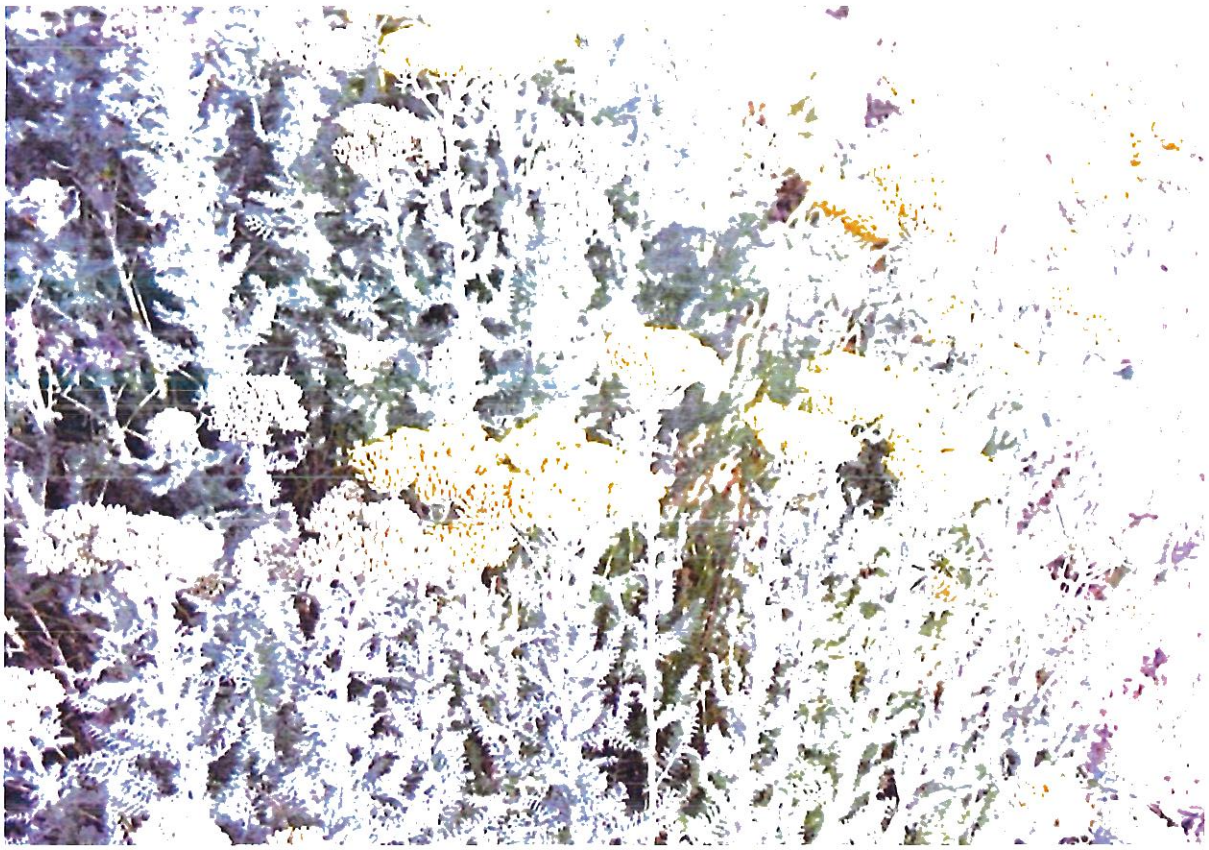
A very spiny plant



- **Arabic name**: Ghamloul Alsharkyia, Ghamloul Al-Silsilah Al-Sharqia Ghamloul Libnani
- **Scientific name**: *Acantholimon libanoticum* Mouterde
- **Common name**: Lebanese Prickly Thrift
- **Family name**: Plumbaginaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Roots
- **Chemical constituents**: Essential oil.
- **Pharmacological action**: The root is used for wounds and skin injuries and its decoction is used for skin infections and wounds.
- **Other uses**: A wild flower.
- **Caution**: No reports.

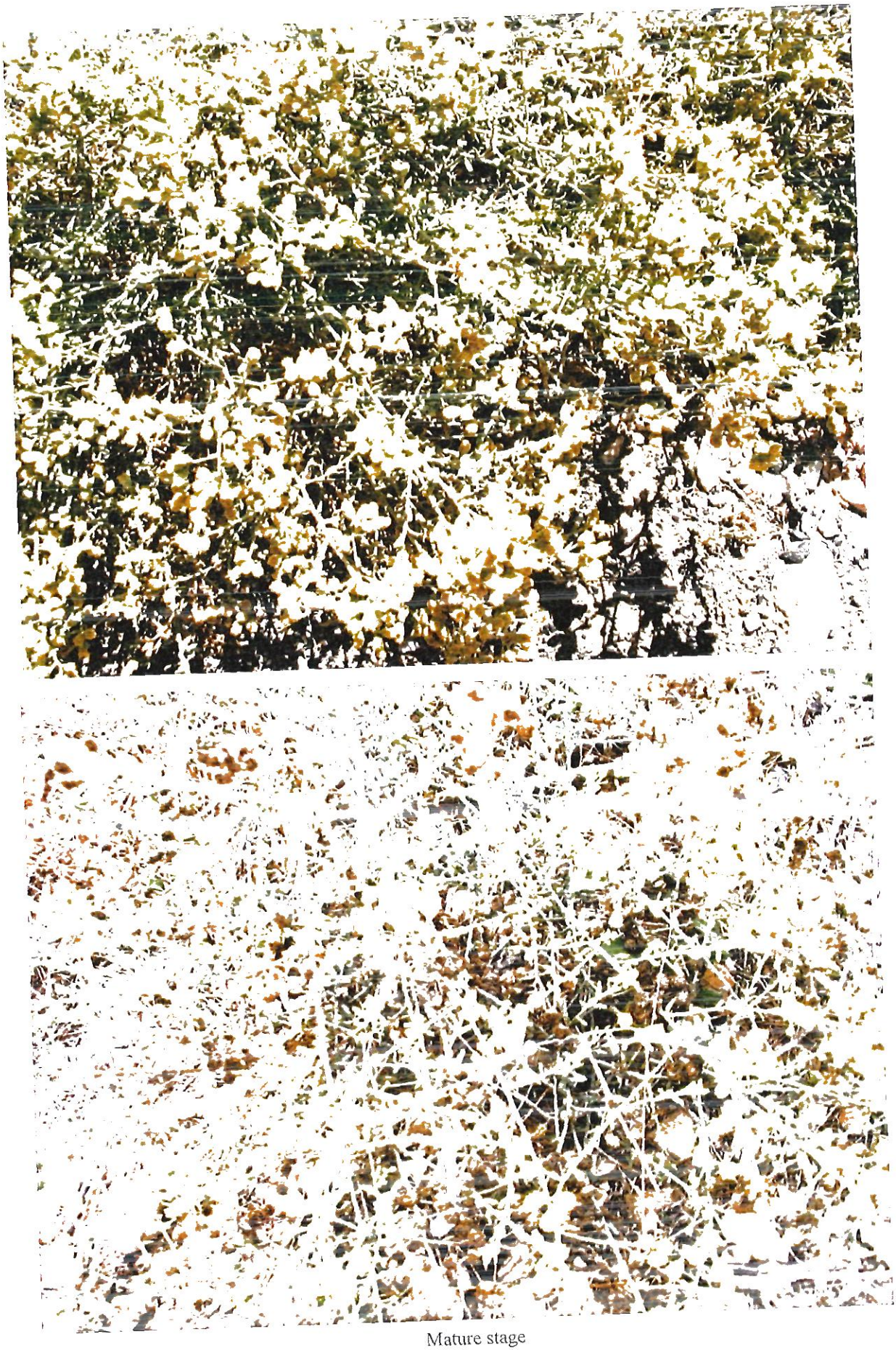
- **Arabic name**: Kaf Al-Hir, Kafn Al-Dob, Shook Aljamal, Shooka Yahoodia, Shook Aljimal, Qadam Al-Dob, Difda'a
- **Scientific name**: *Acanthus syriacus* Boiss.
- **Common name**: Bear's-Breech, Syrian Bear's-Breech
- **Family name**: Acanthaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves, flowers, roots, seeds, and fruits.
- **Chemical constituents**: Tannins, mucilage, mineral elements, gum, sugars, bitter element, glycosides, fatty acids, alkaloids, flavone acyl glycosides, and pectin.
- **Pharmacological action**: The plant is a laxative, digestive, astringent and appetitic. It is used for burns, diarrhoea, insect bites, and intestinal ailments and as a wound remedy. The seeds are palliative, analgesic, and effective in the treatment of bleeding, and relieve ailments, inflammation and inflammation-associated disorders. Fruits infusions and leaves extracts are anti-inflammatories.
- **Other uses**: A wild flower.
- **Caution**: No reports.

A population of plants in the field



- **Arabic name**: Qaisoum, Thafra
- **Scientific name**: *Achillea biebersteinii* Afan
- **Common name**: Yellow Milfoil
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole plant.
- **Chemical constituents**: Essential oil contains cis-ascaridole, p-cymene, carvenone oxide, camphor, and sesquiterpene lactone. The plant also contains alkaloids, achillin, inulin, bitter materials, vitamin K, resin, tannin and cenoil.
- **Pharmacological action**: The plant is antispasmodic, diaphoretic, carminative, stimulant and tonic. It is used as an eyewash for conjunctivitis, as an insect repellent, and for itching, toothache, intestinal colic, enteritis, dysentery, kidney stones, colds, cramps, fevers, dermatitis and haemorrhages. It stimulates bile flow and purifies the blood.
- **Other uses**: The plant is a wild flower and an insect repellent.
- **Caution**: Plant ingestion may cause some minor symptoms such as rashes, vomiting or diarrhoea. Small amounts may not cause any symptoms. Exposure to plant juice or sap may produce a skin rash or irritation. Skin wounds from these plants can be extremely painful, causing large blisters and skin burning.

- **Arabic name**: Qaisoum
- **Scientific name**: *Achillea fragrantissima* (Forrsk) Sch. Bip.
- **Common name**: Yarrow, Lavender Cotton
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Flowering buds, leaves, non-woody young branches, and flowers without petiole sometimes.
- **Chemical constituents**: Essential oils contain □-pinene, d-myrcene, sabinene, the biotherat linalool formates, acetates, and butyrates of l-linalool, □-terpineol, 3-hexen-1-ol, and nerol, ethyl amyl ketone, an unidentified ketone, eugenol, carvacrol, 3-nonanol, santolina alcohol, artemisia alcohol, artemisia ketone, cis-thujone and trans-thujone lactone as major constituents. Monoterpene and pyran derivative. Flavone. flavones cirsimaritin, chrysosplenol D, cirsiliol and the sesquiterpene lactones. Flavonoids cirsiliol, oxygenated santoline derivatives and glaucolides.
- **Pharmacological action**: The plant is carminative, depurative, expectorant, stomachic, anti-dysmenorrhoeal, anti-diabetic and anti-rheumatic.
  In folk medicine, it is used to treat diabetes, intestinal colic, lowers the blood cholesterol level, treats renal calculi, is a urinary tract disinfectant and lowers the blood glycerides. It is a tonic, disinfectant, used for stomach aches, muscular rheumatism, coughs, as a drink, to treat snake or scorpion bites and poisons, aids the kidneys, prevents chafing in babies, helps chest complaints and children's colic, and is an insect repellent and a vermifuge. The essential oil has antimicrobial activity and has demonstrated bactericidal activity against *Staphylococcus aureus, Bacillus subtilis*, and *Escherichia coli.*
  In folk medicine, the plant is used as a sterilizer for cuts and epidermal illnesses, coughs and muscle strains.
- **Other uses**: The plant is regarded as a wild flower.
- **Caution**: Eating the plant may cause some minor symptoms such as rashes, vomiting or diarrhoea, but small amounts may not cause any symptoms. Exposure to juice or sap from plants may produce a skin rash or irritation. Skin wounds from these plants can be extremely painful, causing large blisters and skin burning. It is known to contain estragole in unspecified quantities.



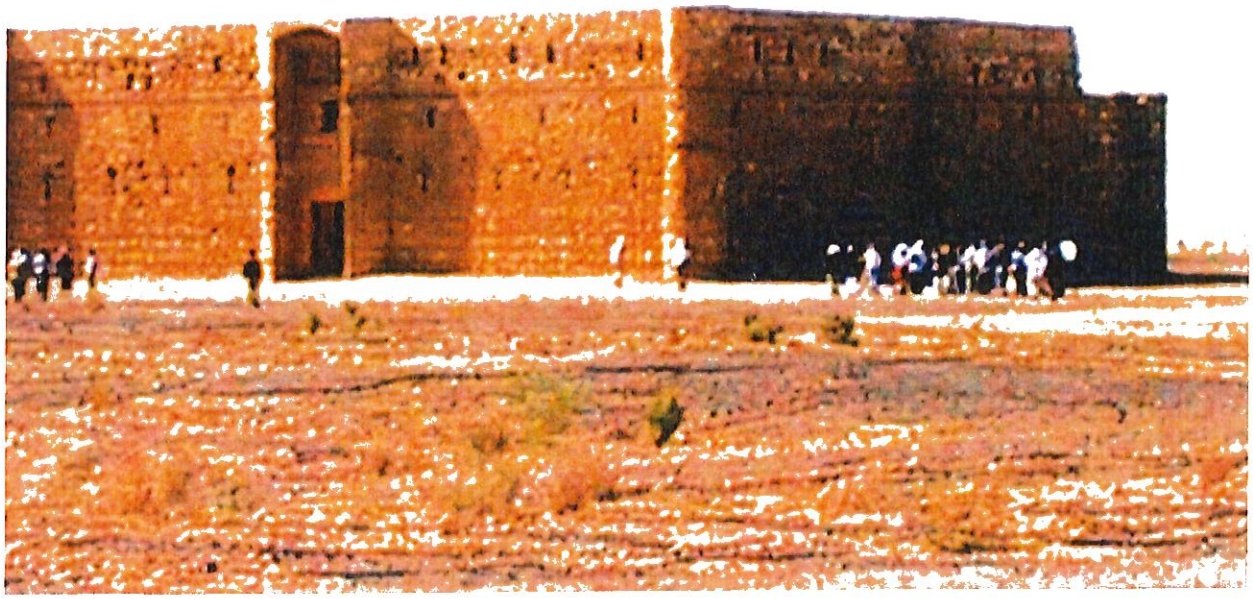
Mature stage

- **Arabic name**: Qaisoum, Ushbat Alnajareen, Hazanbal, Achillea That Alph Waraqa
- **Scientific name**: *Achillea millefolium* L.
- **Common name**: Yarrow, Milfoil, Dog Fennel
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Non-woody soft branches, flowers free from petiole, inflorescence, leaves, and the whole plant except roots.
- **Chemical constituents**: Fixed oil contains azuline that changes to a blue colour after distillation. Alkaloids include achillin, stychydrine, echicin and others, tannins and bitter materials. The chamazulene is obtainable from proazulene that consists of almost 40% of the oil. Glycol-alkaloid, monoterpenes and sesquiterpene are also present. The oil also contains cineole. The herb contains vitamin K, resin, glycosides santonin, artemesine, thujone, absintine, and the insecticidal compounds chrysanthemum and chenerarefolume. Volatile oil, monoterpenes lactones, flavones, flavonoids, apigenin, tannic acid, salicylic acid, coumarins and sesquiterpene lactones are also present.
- **Pharmacological action**: The plant and its extract are antibacterial, antiphlogistic, antispasmodic, bitter, astringent, aromatic, carminative, appetizers, digestive, improve blood circulation and stop internal and nose bleeding. They are diuretic, emollient, anti-anaemic and cure toothache. The plant is used for coughs, arthritis, dysentery, haemorrhoids, kidney ailments and stomach disorders. It cures eczema and skin exanthema, and is an anthelmintic.
  The oil is anti-inflammatory, and is mainly used for arthritis, gastritis and cystitis. Leaves stop bleeding, and treat sprains, bruises and rashes. As a bath additive, the plant helps with cracked skin. The root is excellent for flu and fevers. It heals and soothes mucus membranes, helps stop pulmonary haemorrhages and kidney bleeding, regulates menstruation, and is an appetizer, antispasmodic, astringent, diaphoretic, hypotensive, diuretic and antiseptic. It is also used for liver disorders, coughs, choleretics, and diarrhoea and as an anti-inflammatory.
  In traditional medicine, the hairy filaments of the leaves are inhaled to stop nosebleeds and cure headaches. The herb is used for staunching blood flows in all forms. It is also used for hysteria, flatulence, heartburn,

colic, epilepsy, rheumatism, toothache, colds, internal bleeding, anorexia, ague, sore throat, sore nipples, profuse menstruation, piles, cuts and contusions. It eliminates toxins. The herb intensifies the efficacy of other herbs when taken in conjunction with it.

The plant perfume has sedative properties. It is used for chest infections, digestive problems, nervous exhaustion, menstrual problems and rheumatism. It can also be used for skin complaints including acne, and for reducing scarring from burns and cuts.

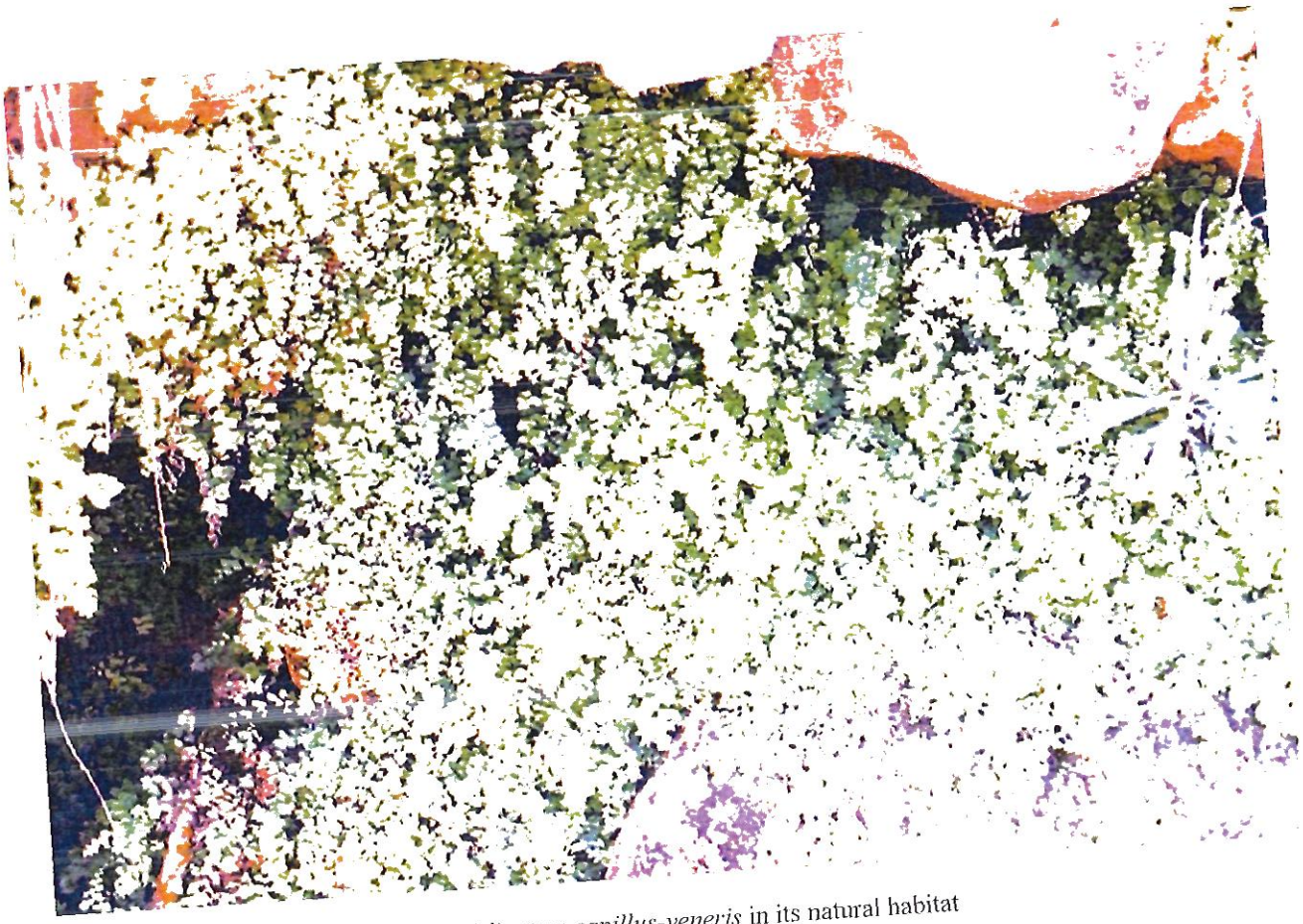
- **Other uses**: The plant is a wild flower and used to build crafts.
- ***Caution***: The plant should be used in moderate doses and for a short period. It contains alkaloids and the toxic achillin. It causes dermatitis and is a uterine stimulant; large doses should therefore be avoided during pregnancy. Eating the plant may cause some minor symptoms such as rashes, vomiting or diarrhoea. Exposure to juice or sap from plants may produce a skin rash or irritation. Skin wounds can be extremely painful, causing large blisters and burning of the skin.



Harrana Palace

- **Arabic name**: *Qaisoum*
- **Scientific name**: *Achillea santolina* L.
- **Common name**: Santolina Milfoil, Yarrow
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Biennial or perennial
- **Part/s used**: Aerial parts.
- **Chemical constituents**: *Essential oils made from 1,8-cineole, fragranol, fragranyl acetate, camphor, 4-terpineol and trans-carvelol. The plant also contains fixed oil, a guaianolide and a germacranolide, flavones, flavonoids and sesquiterpene lactone, alkaloids, saponins, tannins, vitamin K, resins, sterols, flavonoids,* achillin, inulin, carbohydrates, sanchillin, santachine, lactones, santolin, santolinol bitter principles and a sesquiterpene lactone.
- **Pharmacological action**: The plant is an antiphlogistic, carminative and tonic. It is used for children's stomach aches, enteritis, dysentery and as an insect repellant. Its alkaloid possesses cardioinhibitory and intestinal antispasmodic effects on rabbit hearts and intestines, respectively. It relaxed the contractions in an isolated rat uterus and the histamine-induced spasms of the tracheal strips of guinea pigs. The alkaloid also *lowered blood pressure in dogs.*
- **Other uses**: Green parts of the plant are used in preparing tea used against internal worms and to overcome *abdominal colic.*
- **Caution**: Exposure to juice or sap from plants may produce a skin rash or irritation. The alkaloid is toxic. Its *acute toxicity is characterized by shallow, rapid respiration, paralysis of the hind limbs and stretching of the* tail.

- **Arabic name**: Kuzbaraht Al-Bi'er, Ja'deht Al-Qanah
- **Scientific name**: *Adiantum capillus-veneris* L.
- **Common name**: Venus Hair, Hair Fern, Southern Maidenhair Fern, Common Maidenhair Fern, Maidenhair Fern, Venus Hair Fern.
- **Family name**: Adiantaceae / Pteridaceae
- **Growth habit**: Fern
- **Life cycle**: Perennial
- **Part/s used**: Fronds, rhizomes, and the whole plant.
- **Chemical constituents**: Leanne-type triterpenes including adiantone, triterpenic compounds and davallene adipedatol. Pentacyclic triterpenoid compound, a saponin glycoside, a triterpenoid hydroxyhopanone aglycon, sugar components including galactose, glucose, xylose and rhamnose. The plant also contains daphnoretin, mucilage, galacturonic acid, tannin, tannic and gallic acids, capillarin, bitter material, oil, resorcinol, phloroglucinol, methylphloroglucinol, pyrocatechol, protein and histidine. It also contains flavones (rutin and isoquercitrin).
- **Pharmacological action**: The plant is used for asthma, laryngitis, chronic sinusitis, bronchitis, upper respiratory congestion treatment, pneumonia, chest disorders, nasal catarrh, influenza, tonsillitis, jaundice, kidney and spleenopathy. It is an anti-diabetic, refrigerant, anti-fever, antispasmodic, antidandruff, demulcent, a mild astringent, sedative, cathartic, emetic, anthelmintic, diuretic, expectorant and tonic. The plant is also used for curing scorpion bites and as a tea or syrup for coughs. The leaves are used as a hair tonic and give it a healthy glow. Plant syrup or tea is an anti-tussive; fronds are phlegm-repellent and laxative. A plant decoction is used for colds and bile congestion and as an emollient. The plant is used for some skin diseases such as alopecia, fungal diseases, head ulcers, boils, toxicosis, and urinary system inflammations, and its extract is a hair tonic, emollient and emmenagogue. The plant is useful for curing scabies and ophthalmia. It also regulates menstruation anomalies and treats enteritis. Externally, leaves are used as a poultice for kidney problems.
- **Other uses**: It is an ornamental fern. Shampoo and hair lotion from the plant prevent hair oiliness and loss as well as stimulate hair growth. Active deoxygenation and the externally used skin medicine composition combine the effective collagen that is used in the prevention and improvement of skin ageing. The plant is used in cosmetics for the treatment of dry hair. Its oil is used in many food industries and in medicine.
- **Caution**: The fern is never to be used during pregnancy. Large doses of this fern may cause vomiting.



Adiantum capillus-veneris in its natural habitat

A single plant

- **Arabic name**: Ain Al-Deek
- **Scientific name**: *Adonis aestivalis* L.
- ***Common name***: Adonis, Summer Pheasant's-Eye
- **Family name**: Ranunculaceae
- **Growth habit**: Herb
- ***Life cycle***: Annual
- **Part/s used**: The whole plant and flowering stems.
- **Chemical constituents**: Cardenolides, anthocyanin, phenanthrene glycosides, cardiotonic glycosides, astaxanthin, cymarin, carotenoid, saponins, flavonoids, strophanthin, adonidin, adenotoxin, convallatoxin and coline.
- **Pharmacological action**: The plant is a cardiotonic, diuretic, stimulant and laxative. It is used for heart disease and debility, as an antispasmodic, and for sexual diseases and obesity. Its flowers are laxative and lithotriptic. The plant's tea is frugally used for dropsy.
- **Other uses**: The astaxanthin pigment is used in salmon feed. The plant is a wild flower.
- **Caution**: All plant parts are poisonous, and eating the plant causes enteritis and death. Horses have died as a result of eating grass hay containing the plant. Although *Adonis* spp. contains cardiac glycosides, cardiac lesions have not previously been described in livestock associated with its consumption. Some caution is needed in the use of this remedy.

- **Arabic name**: Ain Al-Deek Al-Halappy
- **Scientific name**: *Adonis aleppica* Boiss.
- **Common name**: Summer Pheasant's Eye
- **Family name**: Ranunculaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole herb.
- **Chemical constituents**: Adonedin, adenotoxin, coline, glucosides, cardenolides, cymarin, strophanthin, saponins and flavonoids.
- **Pharmacological action**: The plant is diuretic, cardiotonic, antispasmodic, anti-obesity, and cures heart diseases and debility, and sexual diseases.
- **Other uses**: A wild flower species.
- **Caution**: The plant is toxic in all parts; its intake causes severe enteritis and death.

- **Arabic name**: Ain Al-Deek
- **Scientific name**: *Adonis annua* L.
- **Common name**: Pheasant's Eye, Adonis Flower, Autumn Adonis
- **Family name**: Ranunculaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole herb.
- **Chemical constituents**: Cardenolides, glycosides, flavonoids, cymarin, saponins, adonedin, adenotoxin, coline and strophanthin.
- **Pharmacological action**: It is diuretic, cardiotonic, antispasmodic and anti-obesity. The plant is used for heart diseases and debilities, gout and sexual diseases. It is a tonic, has a strong stimulant effect on the actions of the heart muscles, and its tea is used frugally for dropsy.
- **Other uses**: A wild flower plant.
- **Caution**: Intake of the plant causes severe enteritis and death.

- **Arabic name**: Ain Al-Deek
- **Scientific name**: *Adonis dentata* Del.
- **Common name**: Toothed Pheasant's Eye
- **Family name**: Ranunculaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant.
- **Chemical constituents**: K-strophanthin B, cymarin, adonidin, adonitoxin, choline, acetyladonitoxin, vernadigin, strophadogenin, strophanthidin, cardiac glycosides, cardenolides, saponin flavonoids, carbohydrate and (or) glycosides and phenols. The herb also contains moisture, total ash, acid-insoluble ash, water-soluble ash, crude fibre, acetyladonitoxin, cymarin, strophanthidin and 16-hydroxystrophanthidin.
- **Pharmacological action**: It is a diuretic, cardiotonic and antispasmodic plant. It is used for heart diseases, feeble heart, obesity, and sexual diseases. It cures swellings and hydropsy.
- **Other uses**: A wild flower plant.
- **Caution**: All plant parts are toxic. Its intake causes enteritis and death.

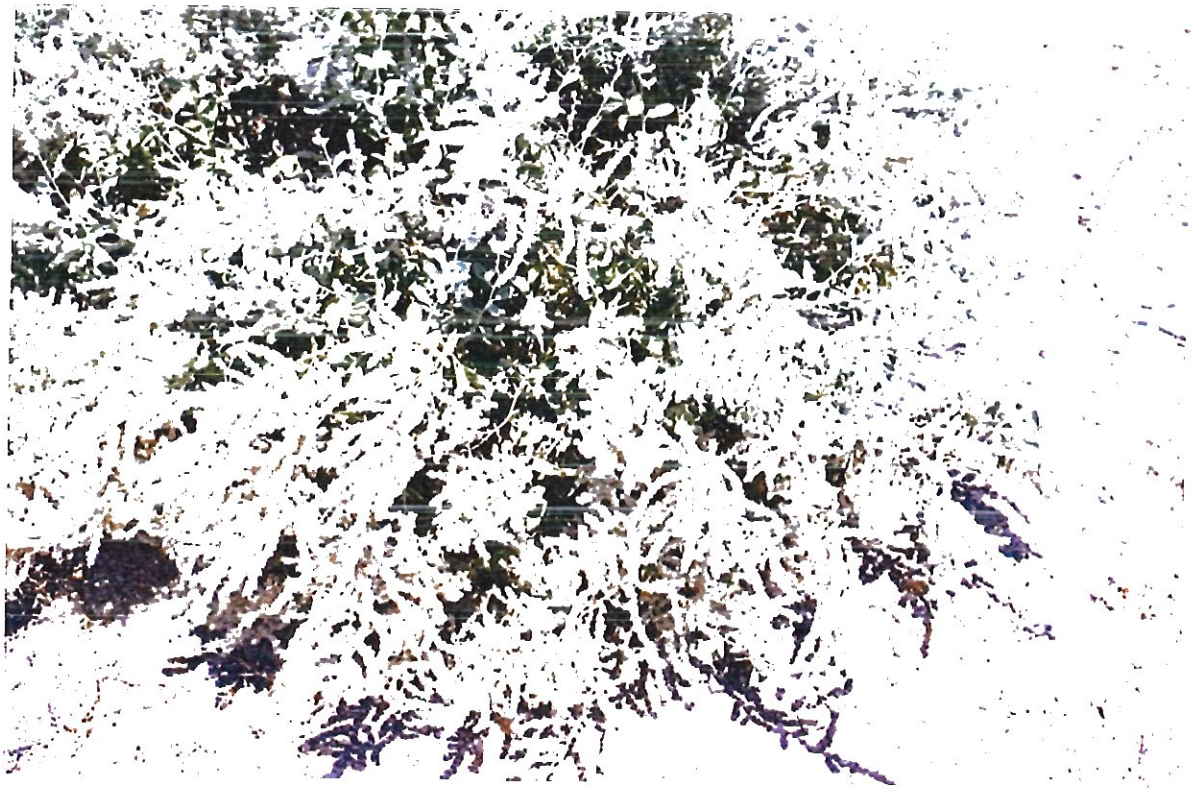
- **Arabic name**: Ain Al-Deek
- **Scientific name**: *Adonis vernalis* L.
- **Common name**: Pheasant's Eye, False Hellebore, Red Morocco, Sweet Verna, Yellow Pheasant's Eye
- **Family name**: Ranunculaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Flowering stems and apex, and all aerial parts of the plant.
- **Chemical constituents**: Cardenolides including cymarin, adonitoxin, and k-strophanthin-□ of practical medical importance, sugar, adonidin, flavonoids, cardiac glycoside, ascorbic acid, adonivernith, strophanthidin fucoside, vitexin, a flavonol glycoside, adonitoxol, Fe, Cu, and Co, orientin and isoorientin flavinoids. Triglycerides, cymarin, choline, strophanthin, saponins, saponin glycosides, flavonoids, triglycosides, adenoside, adenophernoside, gum, fat and acids.
- **Pharmacological action**: The plant helps in cases of cardiac insufficiency and debility, heart arrhythmia and palpitations, cardiovascular stenosis, edema due to heart failure and kidney insufficiency, and also deepens the cardiac swing and accelerates heart pulses. It is also used for hypertension, sexual diseases and angina. It is an anti-rheumatic, antiphlogistic, antioxidative, and vasoconstrictive, is used for anti-obesity and related disorders, and potentiates the effect of sodium.
  It has been indicated that *Adonis* is useful in the treatment of varicose ulcers and in many cases of dropsy. It contracts the enfeebled and dilated heart muscle and improves its tone. It is valuable for the irregularity of the heart and in dyspnoea resulting from a feeble heart and asthma. It has been advised for epilepsy. A flower decoction calms chest pains and coughs and its formulations are diuretic and sedative. The cardiac glycoside stimulates heart functions, acts as a cardiotonic and cures more than digitaline, which is not accumulated in the body.
- **Other uses**: A wild flower.

❖ **Caution**: All species of *Adonis* are poisonous. They are never to be used by patients; the sugar material inside the plant is a toxicant which causes enteritis and death. The herb is not often prescribed, due to its irregular absorption.

Adonis microcarpa

Other *Adonis* species

- **Arabic name**: Sheir Iblees
- **Scientific name**: *Aegilops neglecta* Bertol
- **Common name**: Goat-grass, Three-Awn Goat Grass
- **Family name**: Gramineae / Poaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Seeds
- **Chemical constituents**: Glutenin, protein, and amino acids.
- **Pharmacological action**: Its seeds are used for gout.
- **Other uses**: The genus is important in plant-breeding programs for the incorporation of new characteristics, mainly resistance to plant disease, salinity and drought. The seeds are edible and the species is listed among human foods. The plant also is a grass feed for cattle.
- **Caution**: No reports.



- **Arabic name**: Hashishat Al-Na'iji, Burrah, Geil, Tarf, Ra'i, Reen, Ruwa'a, Arwa, Tweem
- **Scientific name**: *Aerva javanica* (Burm. f.) Juss. ex J.A. Schultes
- **Common name**: Kapok Bush
- **Family name**: Amaranthaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Flowers, roots, and the whole plant.
- **Chemical constituents**: The phytochemical constituents present in the plant include alkaloids (ervine, methylervine, ervoside, aervine, methylaervine, aervoside, ervolanine, and aervolanine), flavonoids (kaempferol, quercetin, isorhamnetin, persinol, persinosides A and B), methyl grevillate, lupeol, lupeol acetate benzoic acid, β-sitosterol acetate and tannic acid.
  The leaves' essential oil is rich in hentriacontane, nonacosane, heptacosane, pentacosane, octacosane, triacontane and hexacosane, whereas the essential oil of the stems is rich in nonacosane, heptacosane, hentriacontane, octacosane, triacontane and squalene.
  The major constituents identified from seeds' essential oil are heptacosane, 3-allyl-6-methoxyphenol, pentacosane, 6,10,14-trimethyl-2-pentade-canone, nonacosane, tricosane, α-farnesene, dodecanal and octacosane.
- **Pharmacological action**: The plant is diuretic, antiphlogistic, hypoglycaemic, anti-diabetic, anti-parasitic, antimicrobial, hepatoprotective, haemostatic, anti-urolithiasis, anti-asthmatic, and anti-fertility and has hypolipidemic properties.
  In folk medicine, the plant is used for coughs, strangury (slow and painful discharge of urine), headaches and urolithiasis. It is also used to cure delays in hair growth and prevent hair loss in aged individuals. Pounded root material mixed with fat in a paste form is used in cosmetics and hair dyes, and, for a darker colour, the powder is mixed with tea or henna. The flowers are sedative, anodyne and their paste poultice is used for wounds and stops bleeding. The plant is used for toothaches and swelling, and is a diuretic and skin emollient.
- **Other uses**: The plant is used for wounds (as a dressing) and bleeding, and for eye diseases in cattle. The roasted root powder or root juice cures eye ailments in animals such as eyesores and inflammations in certain countries. A flower decoction is given to cattle as a cure for East Coast Fever and the root sap is used for eye treatment in animals in certain countries. However, different authors have indicated that the flowering heads were used before by Bedouins for horse saddles, and also in pillows. The plant is a wild flower.
- **Caution**: No reports.

- **Arabic name**: Hentta Sawdai, Najeel, Ukrush
- **Scientific name**: *Agropyron repens* (L) P. Beauv
- **Common name**: Quick Grass, Cutch, Dog-grass, Durfa Grass, Stargrass, Triticum, Witch Grass, Agropyron, Couch-grass
- **Family name**: Gramineae / Poaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Seeds and rhizome.
- **Chemical constituents**: Fructosartriticin, mucilage, graminin, inositol, essential oil, saponins, vanillin, vitamins and minerals. The sugar mannitol is present in large quantities and silica comprises 30% of the inorganic residue,
- **Pharmacological action**: Couch-grass is slightly aperients, laxative, and diuretic, is useful for inflammation and bladder stones, and cures gallbladder ailments. Its drink is exciting in the summer. It is very effective for cystitis and dysuria. It is highly praised as a remedy for incipient nephritis and congestion. *Triticum* is valued in pyelitis and other catarrhal problems. It has been recommended for gonorrhoea, chronic prostatitis and benign prostatic hyperplasia, haematuria, and strangury. It is also advised for its effects upon renal secretion in cases of gout, rheumatism, and jaundice. It is used for irritation of the urinary apparatus, back pain, frequent and gravelly deposits in the urine, and purulent discharges from the urethra. It is an excellent remedy for excessive irritability of the bladder, bronchitis, colds, coughs, fevers, sore throats and a tendency to infection. Couch-grass is a useful remedy in the treatment of urinary infections such as urethritis. It has a

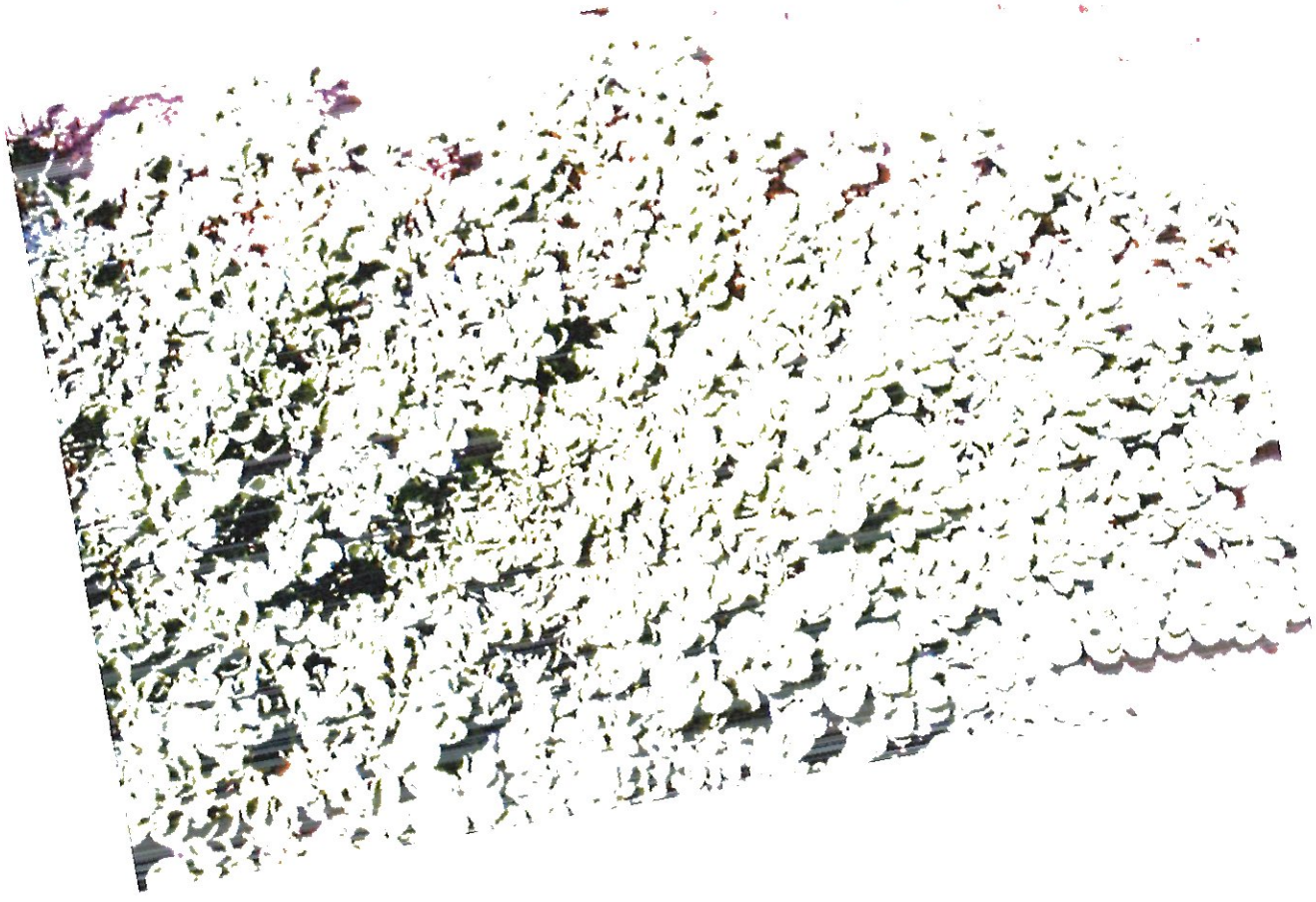
healing action on the urinary mucosa, and is particularly effective for children's conditions and for helping to manage examples of tension in the urinary system such as enuresis and nervous incontinence.
Roots have been used as a medicine since the first century, and even sick dogs eat the leaves to produce a healing vomit. The plant is still used in Europe as a tisane.
The herb is used in the treatment of slow-healing wounds and to strengthen the lungs and other tissues. The plant's antibiotic substance helps to limit infections in the urinary tubules and elsewhere, and it opens the stoppings of the liver and reins without any manifest heat. Rhizome decoction is diuretic and cures urinary system disorders.
Infusions of couch-grass have long been used as a fever drink, and it has the well-merited reputation of preventing gravelly conditions. It is effectual in removing broken-down material by way of the kidneys and is also a demulcent. The infusion is the best form of administration.
In folk medicine, the plant has been used for bladder infections, urinary stones, gout, rheumatism pain, chronic skin problems and constipation.

- **Other uses**: It is a forage plant and regarded as a wild flower.
- **Caution**: The plant should not be used if the patient has swelling caused by heart or kidney problems. Couch-grass presents no problems when taken at typical dosages. However, those who are pregnant or breastfeeding should avoid using the plant.

- **Arabic name**: Thulaija, Kushit Albalad, Hadaq, Jifnah, Mulaih
- **Scientific name**: *Aizoon canariense* L.
- **Common name**: Purslane-Leaved Aizoon
- **Family name**: Aizoaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves, seeds, fruits, and stem bark.
- **Chemical constituents**: Free phenolics and total flavonoids. Antioxidants such as phenolic compounds, glutathione, uric acid, ascorbic acid, α-tocopherol, β-carotene, and lycopene.
- **Pharmacological action**: The plane is antioxidant, antimicrobial, emetic, deodorant and antiphlogistic. It is used in a poultice for skin diseases. The bark gives protection to the body, and leaves are used in cataplasms. The plant has antifungal, antibacterial and anti-diabetic properties.
- **Other uses**: It is a wild flower. The leaves are eaten in salads, and the seeds are ground and cooked into gruel by Bedouins. The leaves are also used as a green vegetable, which is edible like spinach. The seeds are used in cereal starch-based preparations and porridges. The plant is grazed by camels.
- **Caution**: No reports.

Volume Two

Flowering plant



- **Arabic name**: Yshand
- **Scientific name**: *Aizoon hispanicum* L.
- **Common name**: Spanish Aizoon
- **Family name**: Aizoaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant.
- **Chemical constituents**: Antioxidants such as phenol compounds, glutathione, uric acid, ascorbic acid, α-tocopherol, β-carotene and lycopene.
- **Pharmacological action**: The plant is anti-inflammatory and antioxidant.
- **Other uses**: It is a wild flower plant.
- **Caution**: No reports.

Pre-flowering stage

Plants are a source of food, feed and medicine. Sheep are a component of the ecosystem.

- **Arabic name**: Je'ida Ardiyah
- **Scientific name:** *Ajuga chamaepitys* (L.) Schreb (Syn. *Ajuga chia* Schreb.)
- **Common name**: Ground Pine
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Aerial parts, essential oil, and roots.
- **Chemical constituents**: Iridoids, monoterpene glycosides, ajugoside, reptoside, 8-O-acetyl-harpagide, harpagide, 5-O-β-D-glucopyranosyl-harpagide, asperulosidic acid, deacetyl asperulosidic acid, 5-O-β-D-glucopyranosyl-8-O-acetylharpagide and essential oil of ethyl linoleate (13.7%), germacrene D (13.4%), kaurene (8.4%), β-pinene (6.8%) and (E)-phytol (5.3%) are the major volatile components.
- **Pharmacological action**: It has antioxidant activity and cytotoxic effects on tumour cells. Iridoids and essential oil are mainly produced in the type III capitates and peltate trichomes of leaves and flowers. Plant extracts and essential oil are potent radical scavengers. Essential oil and ethanolic extracts showed moderate cytotoxicity on tumour cells. It is a stimulant, diuretic and a good medicine against gout and rheumatism, despite the lack of scientific research on its properties. The plant is mainly used for healing and for abortions as part of medicinal practices in the Mediterranean.
  In folk medicine, it was used by Arabs for paralysis in animals and hysteria in horses.
- **Other uses**: A wild flower.
- **Caution**: No reports.

- **Arabic name:** Ushbet Aldam Alsharqia, Urfus
- **Scientific name**: *Ajuga orientalis* L.
- **Common name**: Eastern Bugle
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves, flowers, and the whole plant.
- **Chemical constituents**: Bitter materials, tannin, saponin and, acidic salt. The plant also contains low amounts of essential oils, sterols polyhydroxyl, phytoechdisteroiodes, and bioactive diglycerides in leaves. High percentage of ecdysteroids which are made from makisterone A, 20-hydroxyecdysone and ceasteron, dihydrobresyateron, 22-oxycyasteron, phytoecdysteroid and hydroegogabetein. In addition, the plant contains 2-dioxy-20-hydroxyecdysone, polipodin B and di-hydroagogaptin mainly in its aerial parts.
- **Pharmacological action**: The plant is antiseptic, stimulant, tonic, carminative and vermifuge. It is used for pulmonary haemorrhages, tuberculosis, and as a hypoglycaemic, anti-ulcer, antipyretic, anti-inflammatory, antibacterial and anti-malarial. It is a cure for gastrointestinal disorders and ailments, enteritis, fevers, headaches and sinusitis. The plant is recommended for abortions, menstrual pains, flatulence, mouth sores and toothache. It is effective for haemorrhoids, arthritis, haemoptysis and asthma. It is bitter, astringent, aromatic, mildly laxative, sedative and a painkiller.

  Plant infusions are given for coughs, nervousness, to lower the heart's pulse rate, and to induce calm. It improves the tone of gastrointestinal pain, is anti-bleeding, and acts against coughs associated with the spitting of blood. It eases throat irritation and equalizes circulation. Externally, the plant is used for bruises and tumours.

  An infusion of the flowering head is used for internal worms, as an anti-diarrhoeal, a blood cleanser, to cure women's barrenness, cold diseases, and digestive system disorders, and the powder or the plant's infusion is used after meals for diabetes and hypertension.

  Leaves and flowers are used in the bath to cure myalgia and frayed nerves. They are bruised and applied or the juice is used to wash wounds; both were also made into a lotion for severe wounds or sores and for broken bones and dislocated joints, wounds, sores and body aches. They are of antispasmodic, anti-diabetic,

antifungal, antimicrobial, disinfectant, hypotensive and diuretic properties, heal the stomach and are a febrifuge. They are used for headaches, kidneys and bladder disorders.
The plant's decoction is used for ulcers, bruises, wounds, tumours, sores, gangrene and fistulas, and the infusion of the entire plant is anti-haemorrhagic and anti-febrile.
The roots are hypoglycaemic, antiphlogistic, hypothermic, and anthelmintic. They are used for rheumatism, kidney stones, and against gastrointestinal problems.

- **Other uses**: The roots are a source of a black dye. Clerodan diterpenoid isolated from leaves has antagonistic effects on cotton worm (*Spodoptera littoralis*) larvae.
- **Caution**: The plant is safe for use, but if it shows some simple disturbance such as a stomach disorder, then the dose must be reduced or its intake should be completely stopped. It is preferable that the plant is not used by pregnant or lactating women and diabetics, and if so then only under strict medical supervision.

- **Arabic name**: Albuca
- **Scientific name**: *Albuca spiralis* L.f. (Syn. *Falconera spiralis* (L.f.) Salisb.).
- **Common name**: Spiral Leaved Albuca, Spiral Albuca, Slime Lily, Helicopter Plant, Corkscrew Albuca, Curly Albuca, Sticky Corkscrew Lily
- **Family name**: Hyacinthaceae / Asparagaceae / Liliaceae
- **Growth habit**: A small geophyte
- **Life cycle**: Perennial
- **Part/s used**: Flowers, leaves, and bulb.
- ***Chemical constituents***: Aromatic oil.
- **Pharmacological action**: *Albuca* spp. in general used as herbal medicine; crushed leaves are used to cover cuts and bruises, and syrup is used against colds. *Albuca* has many medicinal and other uses. There are valuable and obscure specifics on these African ethnobotanicals, including: *Albuca fastigiata* is used as a protective charm; *Albuca nelsonii* infusions are taken as emetics against sorcery; bulb infusions are sprinkled in yards as protective charms; and *Albuca setosa* is used in ritual cleansing.
  Albuca spiralis is a fragrant winter plant. The flowers are sweetly scented, with an aroma like that of vanilla. It is a really unusual, lovely and rare plant. This small and unusual species is loved for its unusual spiral leaves.
- **Other uses**: It is a very nice and rare wild flower plant, and an ornamental in other countries. It is visually interesting even when it is not flowering. In spring, it produces numerous yellow-green nodding flowers that are said to smell of butter and vanilla.
- **Caution**: No reports.

The plant in its natural habitat

- **Arabic name**: Khitmiya Bedoon Saq, Khitmiya Zaltta
- **Scientific name**: *Alcea acaulis* (Cav.) Alef.
- **Common name:** Stemless Hollyhock
- **Family name**: Malvaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Flowers, and the whole plant.
- **Chemical constituents**: Mucilage, phenols, and flavonoids.
- **Pharmacological action**: It is an antioxidant; the flowers' infusion or decoction is emollient, and the plant is used for chronic coughs, bronchial and throat catarrh and constipation.
- **Other uses**: A wild flower.
- ***Caution***: *No reports.*

- **Arabic name**: Khetmi, Eiwainat Al-Baqarra, Khetmia, Finjan Al-Qadi
- **Scientific name**: *Alcea setosa* (Boiss.) Alef.
- **Common name**: Mallow, Marsh Mallow, Bristly Hollyhock
- **Family name**: Malvaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Flowers, leaves, roots, and the whole plant including roots.
- **Chemical constituents**: Protein, fats, carbohydrates, fibres, tannin, mucilage, resin, ash, calcium, phosphorus, iron, sodium, potassium, vitamin A, thiamin, riboflavin, niacin and ascorbic acid.
- **Pharmacological action**: It is antiseptic, emetic, and anti-constipation. It heals wounds, and is used against stomach acidity, dysentery, urine system inflammation, peptic ulcerations, gastritis and bronchitis. The roots are mildly laxative, and are used for intestinal problems, colitis, irritable bowel syndrome, teething babies, and as an ointment for measles. Leaves are used as an inflamed mouthwash, protect mucus membranes, and help in cases of dry coughs, bronchial asthma, congestion and pleurisy. The flowers' lotion is used for dermatitis, rashes, boils, abscesses and wounds.
- **Other uses**: The leaves and roots are used as a vegetable and flowering buds are used in tea. Yellow and green pigments are obtainable from the plant.
- **Caution**: No reports.

Spread in natural habitat

- **Arabic name**: Aqool, Shook Algamal, Shinjar
- **Scientific name**: *Alhagi maurorum* Medik.
- **Common name**: Alhagi, Camel Thorn, Manna
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Herb or Shrub
- **Life cycle**: Perennial
- **Part/s used**: The whole plant, roots, leaves, flowers and extract.
- **Chemical constituents:** Cardiac glycosides, steroids, terpenes, saponins, vitamins A, C and K, alkaloids, flavone glycosides, polysaccharide, manna contains melezitose, sucrose, and invert sugar from leaves and twigs, mineral elements include aluminium, zinc, copper, and manganese. The plant contains oil, carbohydrates, flavonoids, tannins, unsaturated steroids, resins, reduced sugar and volatile oil. The root contains anthracene glycosides, tannins, unsaturated steroids, saponins, carbohydrates, and mineral elements.
- **Pharmacological action**: It is a laxative, emetic, purgative, anti-diaphoretic, anti-thirst, anti-microbial, diuretic, expectorant, anti-dysenteric, analgesic, aphrodisiac and hepatic plant. It is used for pharyngopathy, kidney stones, cataracts, tonsillitis, jaundice and rheumatism. The plant is important for the corrosion of the uterus, ancientness and ear aspirate or gum. It increases heart contractions, enhances respiration, tonic and useful for asthma. It helps in hypertension resulting from kidney disorders and increases in angiotensin secretions and heart pulses. The plant is used as an inhalation for migraines. The vapour of a plant decoction is a sedative for skin itching and an emollient. Leaves' secretions are an aphrodisiac, provide general body bioactivity and cholagogue. Flowers are used for piles treatment and bleeding.
  In folk medicine, its roots are recommended as an analgesic, calm rheumatic pain and as a diuretic. It is a depurative for the digestive system, and is used for bilharzia, kidney stones and dysentery. All plant parts (drink, rub, vapour, and ash) cure haemorrhoids, and are anthelmintic, antidote, antispasmodic, and wound washes; in addition, they cure leg exudates, eye mist, conjunctivitis and glaucoma, refine the blood, are emmenagogue, anti-diabetic, and anti-deafness, and are a remedy for sores, scabies, and leucoderma. Plant ash is used for drying wounds and the plant tincture is a very successful drug for arthritis. The plant's powder is used as an anti-diarrhoeal and antiseptic agent.
- **Other uses**: The roots are cooked as a famine food; it is only used in times of need, and is grazed by camels. The plant releases a sugar liquid that is transformed into gum.
- **Caution**: The plant harms the kidneys.

The plant spread

A single plant

- **Arabic name**: Kahla'a
- **Scientific name**: *Alkanna strigosa* Boiss. X
- **Common name**: Spiny Alkanet
- **Family name**: Boraginaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves, stem, root, and the whole plant.
- **Chemical constituents**: Monoterpenes, sesquiterpene lactones, pyrrolizidine alkaloid, tannin, red pigments, and triterpenes.
- **Pharmacological action**: The plant is used for pharyngitis and throat catarrh, and as an astringent and a source of a red pigment in cosmetics. Traditionally, it is used topically for the treatment of skin wounds and diseases. Orally, alkanna root has been used for diarrhoea, gastric ulcers and digestive system diseases, and has demonstrated radical scavenging activity, suggesting potential anti-ageing effects. The pyrrolizidine alkaloid components of alkanna root are substrates for the cytochrome P450 3A4 isoenzyme. Inducers of this isoenzyme, including rifampin, St. John's wort, and phenolparbital, may increase the conversion of pyrrolizidine alkaloids to toxic metabolites.
- **Other uses**: It is a wild flower and a source for red dye material, used in the production of polymers, drugs, pesticides and other chemicals (e.g. ethanol, acetic acid, ethylene glycol, vinyl chloride), plant hormones, commercial fuel (propane), components of gasoline (pentane and octane), natural gas (methane) and paraffin wax. It is effective in reducing the numbers of immature *Bemisia tabaci* and is a repellent to *B. tabaci* adults. Extracts of *A. strigosa* could act as a potential source for a natural product developed for *B. tabaci* management.
- **Caution**: No reports.

Flowers of different colours

- **Arabic name**: Alkahla'I, Hawa Jawi Azraq
- **Scientific name**: *Alkanna tincture* (L.) Tausch
- **Common name**: Borage, Dyer's Alkanet, Alkanet
- **Family name**: Boraginaceae
- **Growth habit**: Herb
- **Life cycle:** Perennial
- **Part/s used**: Rhizomes, roots, and dried stems.
- **Chemical constituents**: Toxic alkaloids and a carcinogenic pyrrolizidine compound. The plant also contains alkannins, oleic and palmitic acids. Alkaloids, naphthoquinone, alkannin isovalerate, the angelate 7-angeloylretronecine, triangularine and dihydroxytriangularine are also found in the root bark.
- **Pharmacological action**: The plant is an adrenal gland stimulant, antiphlogistic, galactagogue, hypotensive, anti-ulcer, anti-rheumatic, depurative, diuretic, emollient and expectorant. It is used for leprosy, bile, spleen, and digestion disorders, burns, pharyngitis, kidney stones, toxicity, febrifuge, kills internal worms, as a lenitive ointment, nervine, pectoral, in poultices for wounds and bruises, smallpox, ulcers, cruris resulting from varicose veins, arthritis and rheumatism. It is sedative, sudorific and tonic. Because it is a successful plant in curing ulcers, a formulation drug called histoplastin is thus produced as an ointment, which is coloured red from the roots and is used with olive oil and honeybee wax.
  In folk medicine, the plant is used in regulating the metabolism and the hormonal system, as a remedy for PMS and the menopause, to alleviate and heal colds, and for bronchitis and respiratory infections. The oleic and palmitic acids of borage may also confer a hypocholesterolemic effect. The root of this herb is applied internally as an anti-diarrhoeal agent and externally for skin diseases.
- **Other uses**: The plant is a source of natural dye, due to its intensively purple-coloured dyestuffs called alkannins; the root bark is also used for staining cosmetics and foods. The drug should, however, no longer be administered internally. Prior to the staining of foods, the alkaloids should be eliminated. The bark is no longer used internally.
- **Caution**: The plant contains pyrrolizidine and lycopsamine carcinogenic compounds, and it should therefore never be internally/orally administered; its medical uses are restricted only in the use of its local preparations. Some species of *Alkanna* may contain unsaturated toxic pyrrolizidine alkaloids.

- **Arabic name**: Thoom napoli
- **Scientific name**: *Allium neapolitanum* Cyr.
- **Common name**: Naples Onion, Ornamental Onion, Flowering Onion, Naples Garlic, Daffodil Garlic, False Garlic, Guernsey Star of Bethlehem, Neapolitan Garlic, Star, White Garlic, Wood Garlic.
- **Family name**: Liliaceae / Alliaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Stem, leaves, and root.
- **Chemical constituents**: The volatile oil is composed of alliin, alliinase, allicin, scordinins, selenium, flavonoids, protein, starch, fibre, vitamins A, B, C and E, mineral salts, yeasts and alkaloids.
- **Pharmacological action**: The plant acts against skin inflammations, is anti-bacterial, cures high blood pressure, and prevents blood coagulation and blood plate aggregations. It regulates the heart by the production of adenosine. It is prescribed for patients liable to heart and blood vessel diseases, as it reduces cholesterol levels, LDL blood levels, and the danger of cancer, especially colon cancer. The plant is a strong antiseptic, and antimicrobial, antispasmodic, protects against colds, influenza, and malaria, and strengthens the immune system. It is used for the quick healing of injuries, is hypotensive, prevents arteriosclerosis, is anthelmintic, acts against internal parasites, and prevents pestilential diseases like cholera. It overcomes toxicity resulting from smoking and cures rheumatism. The plant is a tonic and appetizer, anti-diabetic, cures gallstones, and is externally used for sores and insect bites. Members of this genus are in general very healthy additions to the diet. They contain sulfur compounds (which give them their onion flavour) and when added to the diet on a regular basis they help to reduce blood cholesterol, and are a tonic for the digestive and circulatory systems.
- **Other uses**: The leaves, bulb and flowers are edible raw or cooked, and are delicious in salads, being sweet and then developing a fairly strong garlic-like flavour. They are also used as a vegetable or a flavouring in cooked foods. The plant may be used as an ornamental, and it is visited by honey bees.
- **Caution**: Garlic may be dangerous to AIDS patients, since it contradicts the activity of some drugs of this disease. The excessive use of garlic may cause digestive problems and colon ailments, and thus patients with colon problems are advised to avoid using more than one garlic tablet daily. Its odour is also smelled on the breath, skin and from perspiration.

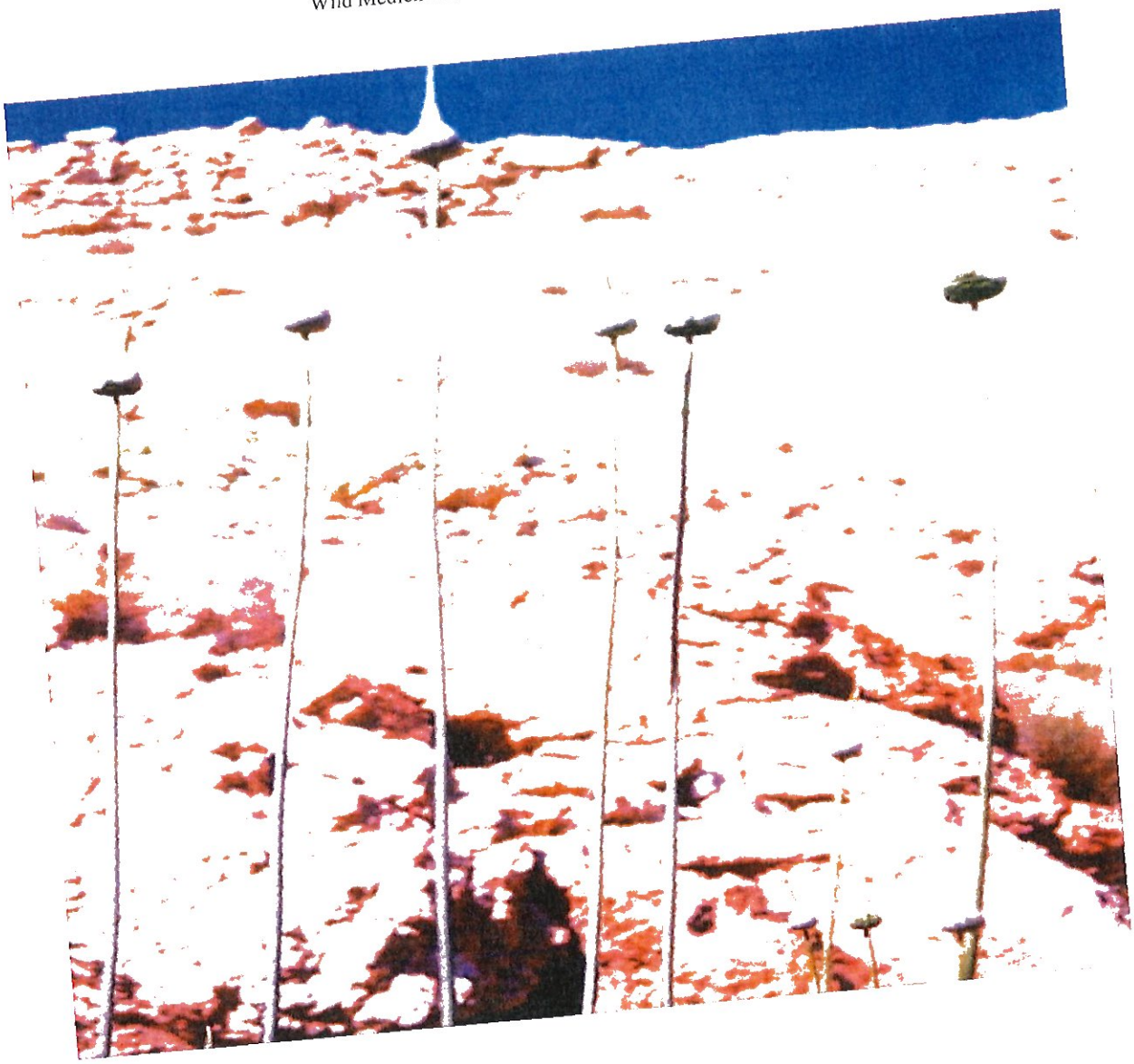
- **Arabic name**: Thoom Al-Sharqi, Bsailah
- **Scientific name**: *Allium orientale* Boiss.
- **Common name**: Oriental Garlic
- **Family name**: Liliaceae / Alliaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Bulb, leaves, and aerial parts.
- **Chemical constituents**: Catechin, caffeic acid, sulfur, linoleic acid and phenolic compounds.
- **Pharmacological action**: The plant reduces blood cholesterol levels, and has antimicrobial and antioxidant activities. Plants of the genus in general are very healthy additions to the diet, may help reduce blood cholesterol levels and are a tonic to the digestive and circulatory systems.
- **Other uses**: The bulb and leaves are eaten raw or cooked. Flowers are consumed raw and used as a garnish on salads. The plant is a moth repellent. It is a wild flower.
- **Caution**: Some cases of poisoning have been reported as a result of the consumption of large quantities of certain members of this genus by some mammals. Dogs seem to be particularly susceptible to poisoning.

- **Arabic name**: Kurrâth Isbânyâ
- **Scientific name:** *Allium roseum* L.
- **Common name**: Rosy Garlic
- **Family name**: Liliaceae / Alliaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Bulb, leaves, aerial parts.
- **Chemical constituents**: Cysteine, sulfoxides, and allicin.
- **Pharmacological action**: It is anticancer and anti-tumour.
- **Other uses**: The plant is edible. Its leaves and bulbs are eaten raw or cooked. It is a garlic substitute, and can be used as a flavouring in salads and cooked foods. The flowers are used as a garnish on salads. It is a wild flower. The juice of the plant is used as a moth repellent and the whole plant is said to repel insects and moles.
- **Caution**: There are no reports on this species, but some cases of poisoning have been caused by the consumption of large quantities of certain members of the genus by some mammals. Dogs seem to be particularly susceptible to poisoning.

- **Arabic name**: Thoom Danini, Thoom Taweel Al-Asdia
- **Scientific name**: *Allium stamineum* Boiss.
- **Common name**: Long Stamened Garlic
- **Family name**: Liliaceae / Alliaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Bulb, leaves, and aerial parts.
- **Chemical constituents**: Phenols, flavonoids, tannins, saponins, steroids, cardiac glycosides (in bulbs) and terpenoids in bulbs and aerial parts.
- **Pharmacological action**: The plant's extract has antimicrobial, antibacterial and anti-oxidant properties.
- **Other uses**: It is a wild flower plant.
- **Caution**: The whole plant is toxic and contains a volatile oil (rich in sulphurated compounds) and saponins. In animals, the main symptoms are anaemia and jaundice. The plant has antimicrobial activity and produces a depressing effect on the heart.

- **Arabic name**: Thoom Barri, Thoom Dibaba
- **Scientific name**: *Allium ursinum* L.
- **Common name**: Bear's Garlic, Ramson
- **Family name**: Liliaceae / Alliaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Flowers, bulbs, leaves, root, and the whole plant.
- **Chemical constituents**: Volatile oil includes glycosides, diphenyl, aldehydes, alliin, antimicrobial materials and vitamin C. Sulfur compounds, such as divinyl sulphide, dimethyl thiosulfonate, methyl cysteine sulfoxide, isoalliin or cysteine sulfoxides, pregnadienolone glycoside, flavonol glycosides, volatile alkyl sulfur, lectins, volatile disulphides, mannose-specific lectins, pregnadienolone glycoside, flavonoids ajoene, and alliin are obtained from bulb extracts, as well as essential oils, thiopropanal s-oxide and other unidentified thioalkanal s-oxides. The whole plant contains nitrogen, total nitrogen-containing compounds, crude protein, ash, carotene, ascorbic acid, lectins and lectin-alliinase complexes in bulbs.
- **Pharmacological action**: The plant is anthelmintic, anti-asthmatic, anti-cholesterolemic, antithrombotic, anti-sclerotic, antiseptic, antimicrobial, antispasmodic, astringent, cholagogue, depurative, emetic, detoxicant, diaphoretic, diuretic, expectorant, febrifuge, hypotensive, rubefacient, stimulant, stomachic, tonic and a vasodilator. It cures skin diseases and purifies the blood. Fresh leaves can be used to promote digestion and regulate blood pressure. It has a great effect on blood chemistry. It is an important drug as an ingredient in infusions, has prophylactic arteriosclerosis activity, and the leaves are used in a combination of anti-tumour preparations. The plant is effective for fermentative dyspepsia, and can be used in the treatment of diarrhoea, colic, wind, indigestion and anorexia. It is used as an infusion against threadworms, asthma, bronchitis and emphysema. The juice aids weight loss and can be applied externally to rheumatic and arthritic joints.

- **Other uses**: The leaves can be used raw or cooked as a vegetable and salad source. In a dried form, the leaves are beneficial to the diet. They can be chopped up in salads and sandwiches or cooked in soups and stews. The plant has the same effect as cultivated garlic but has a stronger flavour. The flowers are somewhat stronger than the leaves. In small quantities they make a decorative and very tasty addition to salads. Bulbs, either raw or cooked, give a fairly strong garlic flavour. The small green bulbils are used as a caper substitute. Allium organosulfur compounds are important in the food industry as both biologically active and savoury ingredients. The seed is a potential resource of oil. The whole plant is a garlic substitute.
- **Caution**: Sulfur oils in the plant precipitate haemoglobin and lead to anaemia problems and weak heart pulses.

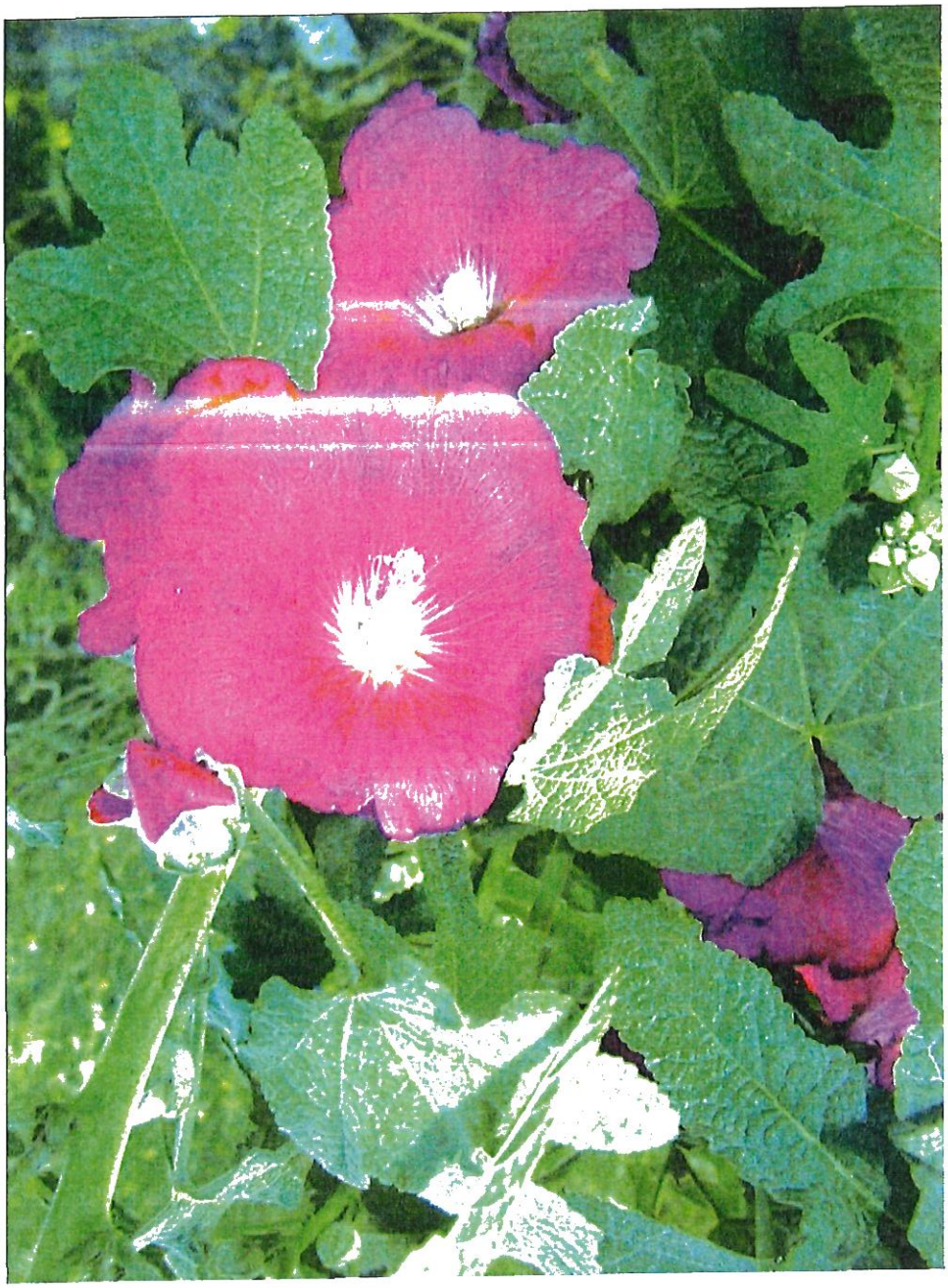


- **Arabic name**: Thoom Barry
- **Scientific name**: *Allium vinale* L.
- **Common name**: Field Onion, Wild Garlic, Crow Garlic
- **Family name**: Liliaceae / Alliaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Roots, bulb, and the whole plant.
- **Chemical constituents**: Garlic inulin called tuberoholoside.
- **Pharmacological action**: The plant is antiasthma, anthelmintic, blood purifier, carminative, purgative, anti-flatulence, cathartic, diuretic, expectorant, hypotensive, stimulant and a vasodilator. A plant tincture is used to prevent worms and colic in children, and for croup. Raw root is eaten to reduce blood pressure and to ease dyspnoea; it also contains sulfur compounds, giving them an onion flavour, helps to reduce blood cholesterol levels, and is a tonic to the digestive and circulatory systems.
- **Other uses**: The plant is a garlic substitute and a wild flower.
- **Caution**: No reports.

Other *Allium* spp.

- **Arabic name**: Khetmia, Khetmi
- **Scientific name**: *Althea officinalis* L.
- ***Common name***: Marsh Mallow, Althea
- **Family name**: Malvaceae
- ***Growth habit***: Herb
- **Life cycle**: Perennial
- **Part/s used**: The leaves, flowers, root, fruits and seeds.
- **Chemical constituents**: Starch, mucilage, pectin, flavones, phenolics, sucrose, asparagine acids, and polysaccharides.
- **Pharmacological action**: It is expectorant, antitussive, laxative, emollient, diuretic and demulcent. It is used for burns, snakebites, asthma, bronchitis, pneumonia, rheumatism, allergies, enteritis, gastritis, nephritis and bladder problems, and sore throats, and as an astringent for vaginal mucosa. A flower infusion is given for bronchial catarrh and bronchitis. It is generally used for ailments of the lungs and the urinary system, specifically for arthritis and kidney stones. An infusion of the leaves or flowers serves as a soothing gargle, and benefits cystitis and urinary tract infections.
  The root is demulcent, diuretic, emollient, lactagogue and vulnerary. It is generally used as a digestive and for skin problems, stomatitis, gastritis, peptic ulcers, colitis, constipation and irritable bowel syndrome. Externally, the root is used for treating varicose veins, ulcers, abscesses, boils, inflammations, burns, carbuncles, furuncles and wounds. A decoction of the root makes a good vaginal douche or soothing eyewash. The cold root extract or an extract of the whole plant is used as a tea that is good for coughs, whooping cough, bronchitis, lung catarrh and bronchial asthma. The tea helps many digestive and urinary problems and can be taken for ulcers and colitis. A root ointment helps sores heal. The root is used as a cosmetic, and helps skin smoothening. Chewed root is used for sore throats and coughs and may be an immune system stimulant.
- **Other uses**: The leaves and roots can be cooked and eaten, and the plant bears wild flowers that are edible. The root extract is sometimes used as a flavour in Eastern snacks. The plant is grown wild as well as cultivated ornamental.
- **Caution**: If the tincture or spirit is used for digestive or urinary system disorders, a hot water method should be used in order to reduce the alcohol percentage.

Plants with different flower colours

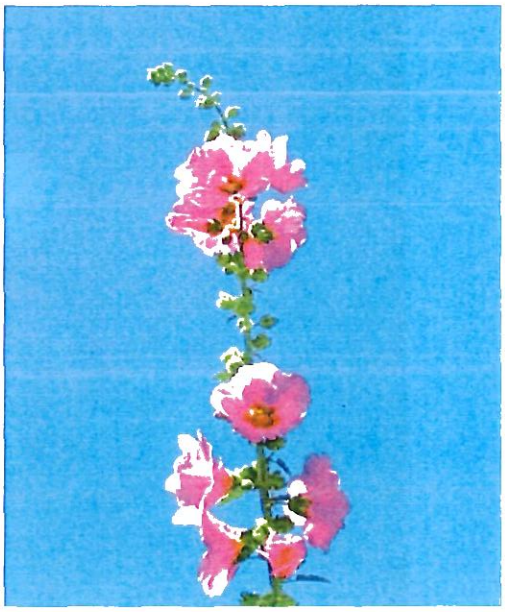


- **Arabic name**: Khutmeyah, Khutmi
- **Scientific name**: *Althea rosea* (L) Cav
- **Common name**: Hollyhock, Marshmallow
- **Family name**: Malvaceae
- **Growth habit**: Herb
- **Life cycle**: Biennial or Perennial
- **Part/s used**: Flowers, leaves, roots, and seeds.
- **Chemical constituents**: Mucilage, starch, pectin, traces of volatile oils, tannins and sugars. The plant mainly contains slurry substances, mucilage and starch (37%) in roots that are of no medical importance. In addition, asparagines, betaiin, lecithin, phytosterol, enzymes, tannins, and mineral compounds are also present. Slurry materials are principally made from sugars, from which, upon hydrolysis, pentose, glucose and dextrose are derived.
- **Pharmacological action**: The plant is used for coughs, gastroenteritis, demulcent, bronchitis, pharyngitis, ulcers and asthma. It is diuretic and vulnerary, believed to be an emollient and laxative, and is used to stop bedwetting and as a mouthwash in cases of bleeding gums. Leaves mixed in oil are used for wounds and snake bites.

The flowers are useful in the treatment of chest ailments, bronchitis, and coughs, and as a decoction to improve blood circulation, tonsillitis, constipation, dysmenorrhoea and haemorrhages.
The root is astringent, internally used for diarrhoea, dysentery, kidneys/womb, vaginal/seminal discharge, and anorexia. The radix althaea drug obtained from the roots is used as an emollient, and is a cure for skin diseases, dermatitis, wounds and light burns. A root decoction with sugar is anti-tussive, and is used for intestinal disorders and as a gargle for laryngitis, whooping cough, bronchitis and gingivitis. The roots are also used in a mixture with fennel and anise seeds for slimming. The seed is a febrifuge. A plant decoction is useful for cystitis, stomach and duodenal ulcers, and nephritis. It is a cure for children's coughs, and sedates gastric and intestinal ailments, urine burning and itching.

- **Other uses**: It is an ornamental and wild flower plant. It is mixed with different herbs and is used to prepare tea.
- **Caution**: No reports.

Althea setosa



Althea sp.

Plants with different flower colours

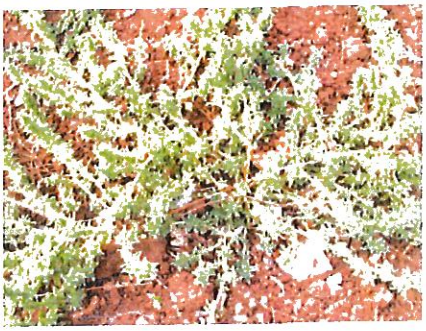
- **Arabic name**: Alyssum, Alyson
- **Scientific name**: *Alyssum iranicum* Hausskn & Baumg.
- **Common name**: Madwort
- **Family name**: Cruciferae / Brassicaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves and flowers.
- **Chemical constituents**: Seed oil as a rich source of α-linolenic acid and β-sitosterol.
- **Pharmacological action**: The plant is used for rabies, madwort, neurological disorders and asthma, to heal insect stings, and as a sedative, a diuretic and a source of vitamin C. It has a potential therapeutic application to enhance NSC proliferation and recruitment in neurological diseases.
- **Other uses**: Leaves and flowers are used in salads for extra spiciness. It is a wild flower.
- **Caution**: Some people with very sensitive skin get a rash from handling this plant.

Fruiting stage

The cultivated *Alyssum maritima* (Ornamental)

- **Arabic name**: Orff Al-Deek, Qteef
- **Scientific name**: *Amaranthus albus* L.
- **Common name**: Tumble Pigweed, Tumbleweed
- **Family name**: Amaranthaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves and the whole plant.
- **Chemical constituents**: Probably a small amount of tannin and astringent materials, and high amounts of vitamins A and C.
- **Pharmacological action**: It is emollient, astringent, haemostatic, nutritive and alterative. It is taken internally for diarrhoea, dysentery, bowel haemorrhages and nosebleeds. It can be used as a douche for leucorrhoea, as a wash for skin problems, and as a gargle for stomatitis and pharyngitis.
  The chemical compounds present in the *Amaranthus* species include sulphonates, squalene and naphthalene, which are used as strong astringent materials, stop dysentery, haematuria and bloody faeces, profuse menstruation, and are effective in lowering cholesterol levels. They are excellent washers of skin problems such as eczema, psoriasis, boils and furuncles. They are also used as suppositories in cases of colon inflammation and rectal sores. It is also beneficial for colon cancer.
- **Other uses**: The plant's extract is phytotoxic to the parasitic weed *Cuscuta campestris*.
- **Caution**: Ingestion of the plant, especially in large amounts, is expected to affect major body organs such as the liver, heart and kidneys. Other reports have mentioned that none of the amaranth species are poisonous and many are used as potherbs. However, when grown in nitrogen-rich soils, they are known to concentrate nitrates in leaves. This is especially noticeable on land where chemical fertilizers are used. Nitrates are implicated in stomach cancers, blue babies and other health problems. It is inadvisable, therefore, to eat the plant when grown inorganically.

The plant in the field



A single plant

- **Arabic name**: Orff Al-Deek Al-Muftaresh, Tapaq
- **Scientific name**: *Amaranthus blitoides* S. Wats.
- **Common name**: Prostrate Pigweed
- **Family name**: Amaranthaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves and the whole plant.
- **Chemical constituents**: Minerals, vitamins, nitrate, protein, and fat.
- **Pharmacological action**: It is a scarfskin emollient. The plant is used for scorpion stings, snakebites, and dermatitis.
- **Other uses**: The leaves are rich in minerals and vitamins and are used like spinach. The plant is a wild flower and a common weed. It may be used in flower booklets since the flower retains its beauty for a long period.
- **Caution**: *Amaranthus* spp. are not poisonous but can accumulate nitrates, which are implicated in stomach cancers, blue babies and other health problems. It is inadvisable, therefore, to eat this plant when grown inorganically.

- **Arabic name**: Roaf
- **Scientific name**: *Amaranthus chlorostachys* Willd (Syn. *Amaranthus hybridus* L.)
- **Common name:** Rough Pigweed
- **Family name**: Amaranthaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves and seeds.
- **Chemical constituents**: Vitamins A, K, B_6, C, riboflavin and foliate, mineral elements including calcium, potassium, zinc, copper, manganese, protein, and lysine amino acid.
- **Pharmacological action**: A tea made from the leaves is astringent, and is used for intestinal bleeding, diarrhoea, and profuse menstruation. The seeds and oil are useful for hypertension and cardiovascular diseases. A regular consumption of the herb reduces blood pressure and cholesterol blood levels, and improves antioxidant properties and some immunity factors.
- **Other uses**: The leaves of young plants are cooked in the same way as spinach, and are added to soup or eaten fresh. They are of mild taste, and can be used raw or cooked as a substitute for grains, ground into flour, and are used in gruel and bread. They are also nutritionally rich. Yellow and green pigments are also obtained from the plant.
- **Caution**: None of the *Amaranthus* species are known to be toxic, but when grown in nitrogen-rich soil they accumulate nitrates, which cause stomach cancer, blue babies and other health problems. This can be clearly observed anywhere chemical fertilizers are used; accordingly, it is not advisable to feed on plants grown in inorganic soils.

- **Arabic name**: Orff Al-Deek
- **Scientific name**: *Amaranthus gracilis* Desf. Ex Poir.
- **Common name**: Green Amaranth
- **Family name**: Amaranthaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves, seeds, flowers, and leafy stems.
- **Chemical constituents:** The seeds contain protein (14-16%) and fat (4.7-7%).
- **Pharmacological action**: A plant decoction is used to stop dysentery and inflammation. The plant is emollient, astringent and vermifuge. The roots' juice is used for inflammation during urination and for constipation treatment.
- **Other uses**: Yellow and green dyes can be obtained from the whole plant. The leaves are cooked like spinach and have a mild flavour. The leafy stems and flower clusters are used similarly. Seeds can be cooked, and are very nutritious. The plant is a common weed.
- **Caution**: The plant only becomes toxic to humans and animals when it accumulates nitrate.

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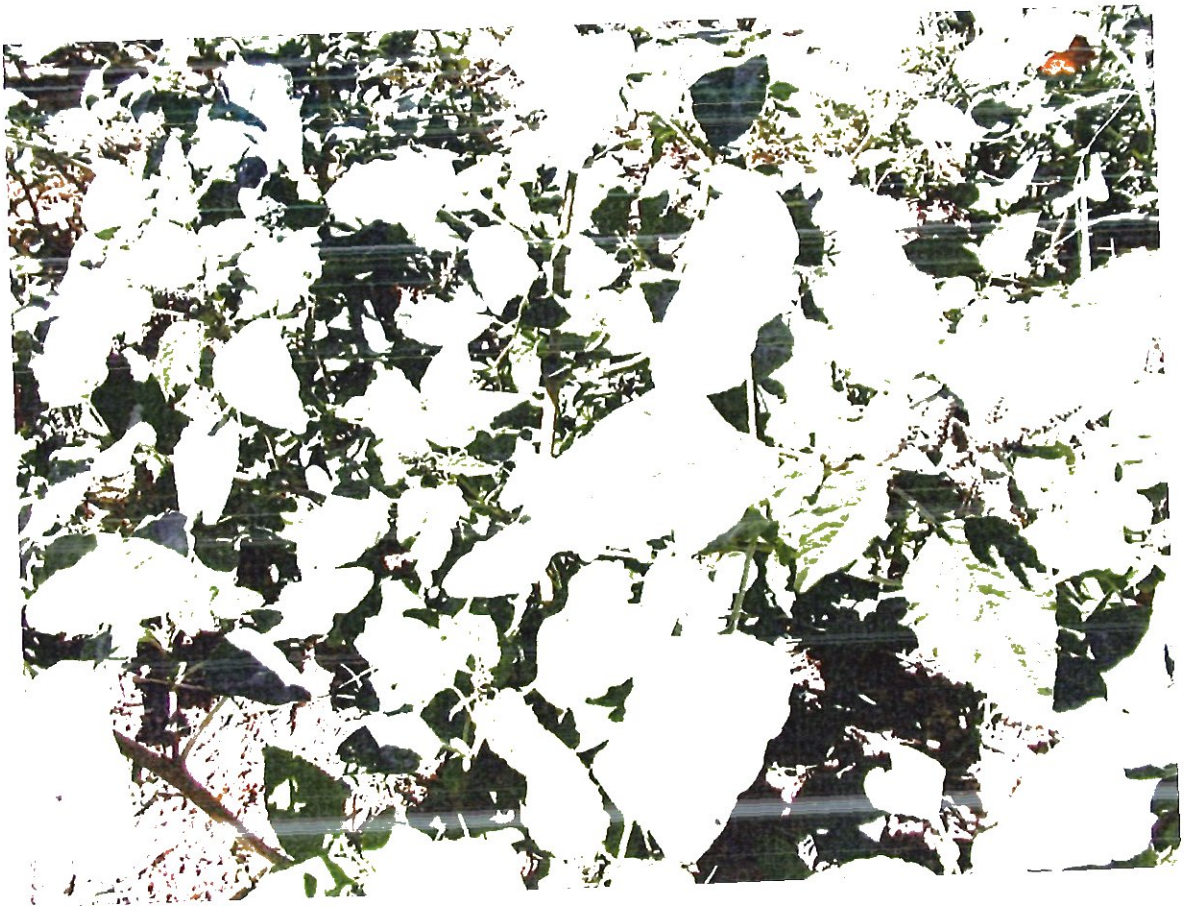
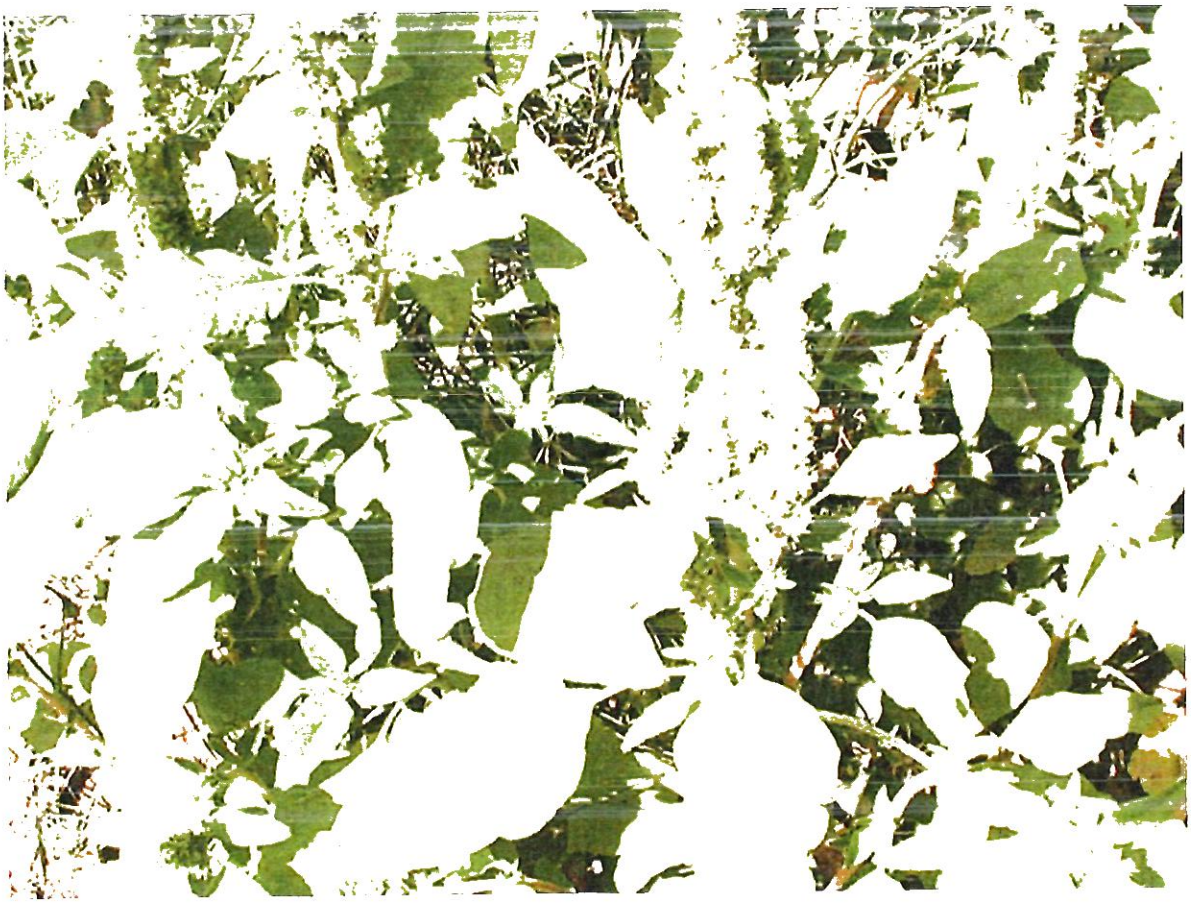


Amaranthus gracilis

- **Arabic name**: Orff Al-Deek, Qtaif, Sandar
- **Scientific name**: *Amaranthus graecizens* L.
- **Common name**: Pelitory-Leaved Amara-Onth, Mat Amaranth
- **Family name:** Amaranthaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Plant tops.
- **Chemical constituents**: Protein, carbohydrate, fibre, calcium, potassium and iron, β-carotene, thiamin, riboflavin, niacin, ascorbic acid, folate and vitamin C and micronutrients. Calcium is partly insoluble and is not taken up in the digestive tract, as it binds to oxalates. The nitrate (mostly in the stems) and oxalate levels are high. The presence of hydrocyanic and oxalic acids makes the plant less suitable for fresh consumption by humans and as fodder for animals. In dishes with green leafy vegetables or potherbs, *Amaranthus graecizans* may be replaced by any other amaranth vegetable.
- **Pharmacological action**: An infusion of plant tops is taken for dysentery. *A. graecizans* subsp. *sylvestris* has antioxidant potential and can be utilized as a natural source of antioxidants. The leaves are emollient, and ground leaves are placed on scorpion and snake bites and on skin boils to act against itching.
- **Other uses**: The plant can be cooked and taken as a potherb. The leaves are used raw or cooked, and are rich in vitamins and minerals. The plant is used like spinach. The leaves can be dried and used as a winter food and seeds are eaten raw or cooked; they are very small and fiddly to cook, but are very nutritious and rich in starch. The seeds can be ground into a powder and are used in making porridge, bread, and as a flavouring in soups. The seeds can also be cooked whole, and become very gelatinous.
  Yellow and green dyes can be obtained from the whole plant. Glue is also made from the plant, most likely from the seeds' starch.
- **Caution**: Plant ingestion, especially in large amounts, is expected to cause effects on major body organs such as the liver, heart and kidneys. No members of this genus are known to be poisonous, but when grown in nitrogen-rich soils they are known to concentrate nitrates in the leaves. This is especially noticeable on land where chemical fertilizers are used. Nitrates are implicated in stomach cancers, blue babies and other health problems. It is inadvisable, therefore, to eat this plant if it is grown inorganically.



- **Scientific name**: *Amaranthus retroflexus* L.
- **Common name**: Redroot Pigweed
- **Family name:** Amaranthaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves, flowers, seeds, oil, and vegetative parts.
- **Chemical constituents**: Celelusia oil, anthocyanin. It is rich in iron and vitamin C and has a high percentage of nitrates, nitrites and carbohydrates.
- **Pharmacological action**: The plant is anti-rheumatic, anti-conception, helps the growth of child hair, and cures wens and warts. Foliage parts may reduce haemorrhaging, diarrhoea, and are used to treat ulcerated wounds. The plant is an astringent, and is used for external wounds, sores, ulcers and inflamed organs. A tea made from the leaves has been used to allay stomach ache, as an astringent and to wash arthritic parts of the body. It is also used in the treatment of profuse menstruation and intestinal bleeding, to treat the mouth, pharyngitis and to quell dysentery. An infusion has been used to treat hoarseness. Strong decoctions were thought to kill and expel intestinal worms. Boiled seeds are used as a drink in cases of coughs, dysentery, rheumatism, wounds, ulcers and haemorrhoids.
- **Other uses**: Because of its ability to produce a soapy lather, the leaves are used in the washing of bandages and other fabrics from the sickroom.
  Young leaves are used raw or cooked like spinach. They have a mild flavour, are very rich in iron and are a good source of vitamins A and C. The seeds are used raw or cooked, ground into a powder and used as a cereal substitute; they can also be sprouted and added to salads since they are also very nutritious, rich in iron and a good source of vitamins A and C. The flavour is much improved by roasting the seeds before grinding them. They are often added to maize meal. The seeds can be cooked whole, and become very gelatinous and can be prepared like butter. Yellow and green dyes can be obtained from the whole plant. The plant may be used as a picked flower, since the flower retains its beauty for a long period.
- **Caution**: All parts of the plant are poisonous when they accumulate nitrate and its ingestion may lead to breathing problems, trembling, weakness, comas and, in some cases, death. Large amounts are expected to affect major body organs such as the liver, heart and kidneys. Pollen causes respiratory allergies. The plant is a common weed. Different diagnoses of hypocalcemia, hypomagnesemia, rabies, and toxicoses from pigweed have been confirmed based on clinical and post-mortem findings; it is partially ingested in pasture.

A. retroflexus population

- **Arabic name**: Khella Shaytani, Aziza, Zind Al-Aroos, Khalat Barr, Khizaran, Khella Kubra
- **Scientific name**: *Ammi majus* L.
- **Common name**: Bishopsweed, Bishop's Weed, Bullwort, Greater Ammi, Lady's Lace, Laceflower.
- **Family name**: Umbelliferae / Apiaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Seeds, fruits, root, fruits oil, stem, and leaves.
- **Chemical constituents**: Coumarins, coumarin glucosides, ammoidin, amidine, komalin, heraclenin, flavone glycosides, xanthotoxin, bergapten, furocoumarins, furanocoumarins, isopemidin, isopimpinellin and isooxyimperatorin form the fruits, as well as 8-methoxypsoralen, and volatile diterpenes. The isopimpinellin and bergapten mixture is called amiforin. In addition, amigrin, ferochlomarin, and other substances are present. The seed contains low levels of crude protein and high levels of available lysine and thymol. Essential oil is obtained from the aerial parts.
- **Pharmacological action**: The ammoidin is used for leucoderma, psoriasis and skin cancer. It is also used as an ointment in skin whitening. The plant is anti-asthmatic, anti-tussive, and cures urine system inflammations and the kidneys. Ointments and poultices are made from the plant to cure skin spots and inflammations, and its dried sticks are used to clean teeth. In folk medicine, the fruits are considered to be diuretic and carminative and are used for angina pectoris and asthma. The plant is poisonous. The root is chewed to give protection against strong sunlight. It contains 8-methoxypsoralen, which stimulates the production of pigments in skin exposed to UV light. Seeds contain thymol and are used as an anti-spasmodic and for the treatment of vitiligo and psoriasis.
- **Other uses**: It is an interesting wild flower that resembles the carrot. The stem and leaf bases are partially edible. The plant is of moderate forage value.
- **Caution**: The plant should be used with caution because of its poisonous effects. It causes severe ophthalmic changes and blindness in horses. In particular, it also causes pigmentary retinopathy in photosensitized domestic fowl.

A single plant

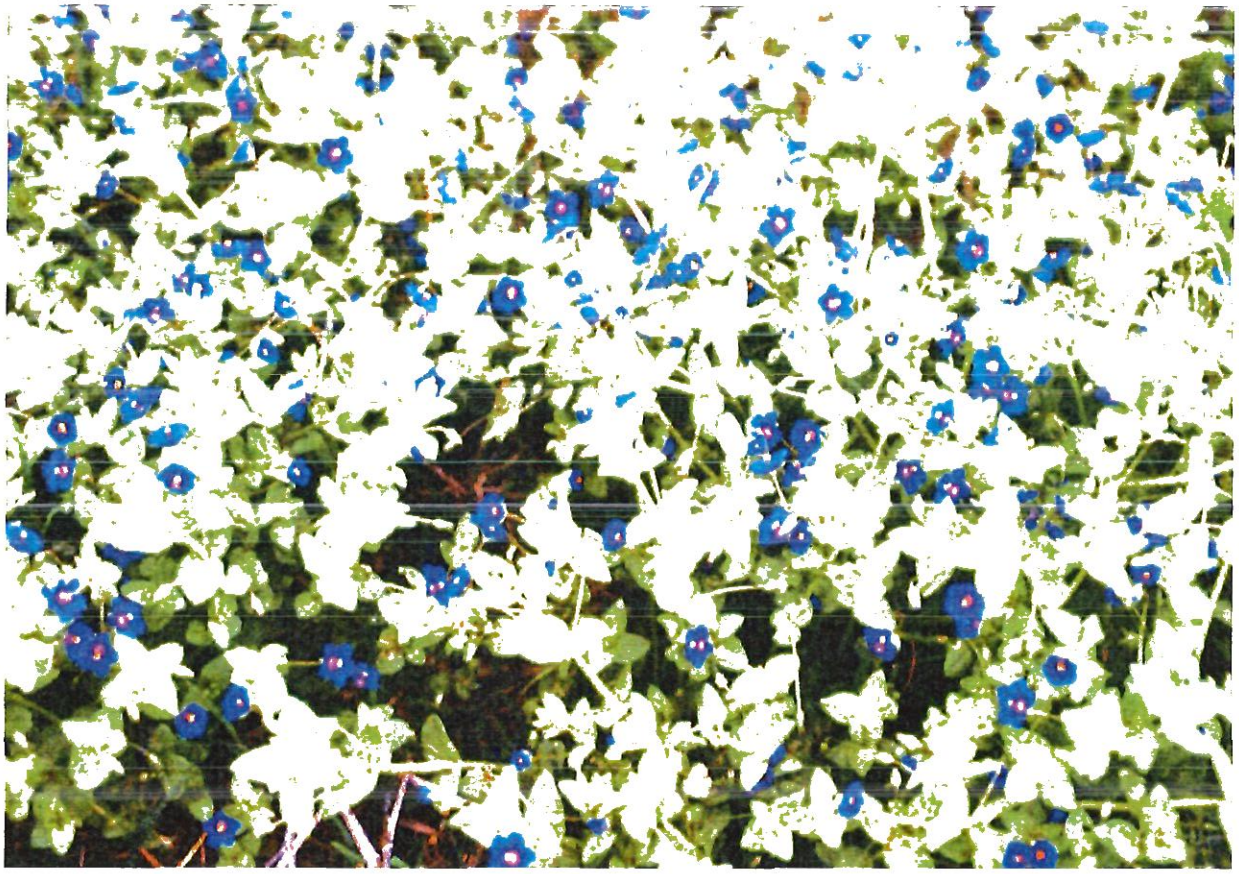
Population in the field

- **Arabic name**: Ujrum
- **Scientific name**: *Anabasis articulata* (Forssk.) Moq.
- **Common name**: Berry Bearing Glasswort, Jointed Anabasis
- **Family name**: Chenopodiaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Aerial parts.
- **Chemical constituents**: Tannins, terpenoids, flavonoids and saponins: 3-O-glucopyranosyl of stigmasterol, ÃŸ-sitosterol and sitostanol, 3-O-[ÃŸ-D-the glucopyranosyl] oleanolic acid, 3-O-[ÃŸ-D-glucopyranosyl-28-O-ÃŸ-D-xylopyranosyl] oleanolic acid, in addition to proceric acid. The leaves contain alkaloids and saponin.
- **Pharmacological action**: The plant has anti-hyperglycaemic effects. It effectively increases the blood hormone insulin concentration and fetoprotein and significantly decreases the blood tumour necrosis factor. The plant also effectively decreases blood fructosamine to its normal level as well as the consequent diabetic decrease in the haemoglobin and albumin levels. Eating the plant effectively modulates the hepatic oxidative tissue damage. The plant has multi-beneficial actions in controlling diabetes and the consequent complications induced in the pancreas and liver, and may be a candidate as a natural anti-diabetic drug. It is used as an edema cure, insect repellent, surfactant and stimulant of the respiratory system. The plant ash is also used to make antiseptic soap for ectoparasites and for eczema treatment.
- **Other uses**: It is a forage species.
- **Caution**: No reports.

- **Arabic name**: Shnan, Ashnan Sorri, Jalew, Udow
- **Scientific name**: *Anabasis syriaca* Iljin.
- **Common name**: Anabasis
- **Family name**: Chenopodiaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: All green parts.
- **Chemical constituents**: Saponins, alkaloids including anabasine, lupinine, aphylline, aphillidine, oxyaphillidine and anabasine, and potassium. It is a source of vitamin PP.
- **Pharmacological action**: Anabasis is a cure for liver disease and ulcers, is a sedative for children, eases childbirth, an emmenagogue, stimulates the respiratory system, removes headaches and is a tonic for capillary vessels. It is used for gingivitis, hysteria and a repellent for parasites, snakes and insects and headaches. The plant is used to treat animal wounds and skin diseases, and as a detergent (after maceration in water) because of its potassium content. The anabasine splits, and the plant becomes edible for animals. It is used for skin diseases, as well as in soap, wounds and running sores.
- **Other uses**: The plant is included in detergents because of its potassium content and is used for washing clothes by shepherds to wash off oils and fats. The anabasine is an insecticide. The plant was used in the soap industry as a KOH substitute. It is palatable, and an important forage plant grazed by livestock.
- **Caution**: Toxicity symptoms in humans and animals include salivation, dizziness, sight troubles and throbbing.

Plants at flowering stage

Anabasis setifera



- **Arabic name**: Ain Al-Bent, Ain Al-Gammal, Ain Al-Qitt, Zraiq Al-Ain
- **Scientific name**: *Anagallis arvensis* L.
- **Common name**: Poor Man's Weatherglass, Scarlet Pimpernel, Blue Pimpernel, Red Pimpernel, Red Chickweed.
- **Family name**: Primulaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant (flowers, leaves, fruits, and roots); all plant parts are used, especially when the leaves' growth is complete, and can be used either fresh or dry.
- **Chemical constituents**: Essential oil, saponin, saponin glycoside named sclamine in roots, tannin, bromelain, lianin, flavonoids, glycosides, triterpene, anthocyanins, triterpenoid glycosides, oleanane triterpenes, sterols and fatty acids composition of leaves, and combined linoleic and linolenic acids. Seeds contain myristic, palmitic, oleic, linoleic, linolenic and gadoleic acids, cucurbitacins B, D, and E, and cucurbitacin glucosides (named arvenin I, II, III and IV).
- **Pharmacological action**: The saponins showed haemolytic activity. The plant possesses antifungal and antiviral properties. It is diuretic, astringent, bitter, sweat-inducing, and expectorant (helps recovery from colds and flu), and may be used for epilepsy, mental health problems, haemorrhoids, colds, coughs, headache, otitis, asthma, respiratory system issues, chest diseases, and rheumatism, and against skin diseases. It stimulates bile, is diaphoretic, and the plant extract is an aphrodisiac. It also cures skin sores, edema, skin infections, and liver disorders, and is effective against snake bites and warts. It is used for fish stupefaction and fishing, and for leech repellence for animals' noses. Saponins have haemolytic effects. A plant infusion may help mental disorders and is used for the prevention of pulmonary consumption. As a tincture, it relieves irritations of the urinary tract, eruptions, and ulcers, and acts as a cholagogue. It is used for epilepsy, skin rashes, thirst and ulcers. As an expectorant it may be used for memory problems.
  A plant infusion is used for dropsy, skin infections, liver and gallbladder disorders, sore throat, skin rashes and itches, and thirst, and to lower blood pressure. It is also used as a source of fungicides and acts against snake bites.
  In folk medicine, the plant is used for obstructions of the liver and spleen, melancholy and associated mental diseases, hydrophobia, urinary irritability, and rheumatism. It is an antidote that prevents the evil results arising from the bite of a rabid animal. Internally, it is advised for use for mania, epileptic attacks, dropsical

affections, and other derangements of the nervous system. The plant may be used in the form of poultice, or as a local application for old and ill-conditioned ulcers.

- **Other uses**: A wild flower.
- **Caution**: The plant's extract and volatile oil exhibited toxicity, as shown in the inflamed mucus membrane in a dog that was fed on its extract, and bodily pain and a persistent headache with violent sickness resulted from the oil. The plant or any of its parts should be employed with caution. It is poisonous and its seeds are very toxic. High plant doses may cause toxicity, diarrhoea and vomiting. Its fruits and leaves are also toxic, and when used in large amounts they agitate the neural system, and cause anaemia in horses, breath weakness, debility, foot weakness, comas, drops in body temperature, dermatitis, uncontrolled urination, and human disorders. Poisoned sheep exhibit bleeding in the kidney, heart and digestive system, lung congestion, liver yellowing with faded tissues, anorexia and diarrhoea. The plant contains toxic saponins like quillaia saponins and cucurbitacins. The haemolytic index of the fresh herb is 1:3500.

- **Arabic name**: Ain Al-Bent, Zaglilah, Ain-Algamal
- **Scientific name**: *Anagallis foemina* Mill
- **Common name**: Blue Pimpernel
- **Family name**: Primulaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Aerial parts
- **Chemical constituents**: Saponins and flavonoids.
- **Pharmacological action**: The plant is used for dermatological purposes and has wound-healing properties. In some cases it is used to treat internal infections, although it is known to be toxic at high doses. It is a wound remedy, and has antimicrobial and antiphlogistic properties.
- **Other uses**: A wild flower.
- **Caution**: The plant is toxic at high doses and its seeds are also highly toxic.

- **Arabic name**: Kharobat Al-Khinzeer
- **Scientific name**: *Anagyris foetida* L.
- **Common name**: Stink Herb, Bean Trefoil
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Seeds and the whole plant.
- **Chemical constituents**: Rhombifoline, 5,6-dehydrolupanine, alkaloids including N-methylcytisine, sparteine, anagyrine, lupanine and cytisine, quinolizidine, scopoletin, pectin, isoscopoletin, and 5-hydroxy-7-methoxycoumarin and alkyl derivatives of anabasine and mucilage.
- **Pharmacological action**: Anagyrine causes vasoconstriction by its action on the central nervous system as well as by provoking adrenaline discharge. Plant formulations are nerve and muscle relaxants. The plant is used as a purgative.
- **Other uses**: It is a shrubby plant in forests and is regarded as a wild flower
- **Caution**: It is a poisonous plant; the leaves contain toxic quinolizidine alkaloids, namely cytisine (a pyridine-like alkaloid) and anagyrine.

Flowering stage

- **Arabic name**: Arfeja Forskal, Bur Al-Gamal, Sunbilat Al-Nasm
- **Scientific name**: *Anarrhinum forskahlii* (J.F. Gmel.) Cufod. (Syn. *Anarrhinum orientale* Benth.)
- **Common name**: Oriental Anarrhium.
- **Family name**: Scrophulariaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Aerial parts and leaves.
- **Chemical constituents**: Flavonoid aglycones, 5-Hydroxy-7-methoxy-2-(4-methoxyphenyl)-4H-1-benzopyran-4-one, flavonoid, flavone apigenin dimethyl ether, 5-Hydroxy-4',7-dimethoxyflavone, 7-O-Methylacacetin, acacetin 7-methyl ether, apigenin 7,4'-dimethyl ether, and genkwanin 4'-methyl ether.
- **Pharmacological action**: The plant is used against acne and boils.
- **Other uses**: A wild flower.
- **Caution**: No reports.

In its natural habitat

- **Arabic name**: Himhim Masri, Shubeit, Dafon
- **Scientific name**: *Anchusa aegyptiaca* (L.) DC.
- **Common name**: Egyptian Alkanet
- **Family name**: Boraginaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Root
- **Chemical constituents**: Mucilage, silicic acid, pyrrolizidine alkaloids, glycosides, glucose.
- **Pharmacological action**: It is anti-tussive and treats inflammation. A red dye is obtained from the root, which could be used as a base for some cosmetics.
- **Other uses**: A wild flower.
- **Caution:** All parts of the plant and seeds are hairy, like other species of the same genus. The roots contain anchusin, a red-brown resinoid colouring matter. It has been used for colouring oils, plasters, lip salve, confections, and in compositions for rubbing and giving colour to mahogany furniture. It has also been used to improve the appearance of low-quality wines and ports, and to give an aged appearance to wine corks. It has also been used as a basis for some cosmetics. In the past, the plant was cultivated.

- **Arabic name**: Himhim, Thanab Al-Qeitt, Lesan Al-Thoor, Himhim Itali
- **Scientific name**: *Anchusa italica* Retz
- **Common name**: Bugloss, Alkanet, Large Blue Alkanet, Italian Bugloss, Garden Anchusa, Italian Alkanet
- **Family name**: Boraginaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole plant (flowers, juice of leaves and stem).
- ***Chemical constituents***: *Cyanoglossine alkaloid, consolidine, choline, tannin, resin, potassium nitrate, sticky* minerals, saponin, salts, mucilage and antwan.
- **Pharmacological action**: *It is diuretic, anti-tussive, anti-allergy, depurative, a mild expectorant, diaphoretic,* antipyretic and refrigerant.
  The plant is used for rabies, fleetness, colds, skin rashes, wounds, influenza, flu, laryngitis, pleurisy, scarlet fever, kidney stone, bronchitis, diabetes, stomach ulcers, herpes, gout, obesity, cardiac diseases (especially *palpitations*), *gums, toothache, rheumatic diseases,* kidney and bladder infections, inflammations and coughing. It is also effective against smallpox, measles, stomach ulcers and skin diseases. The aerial parts are applied externally for contused injuries, sciatica, joints compresses and in adjacent bones diseases.
  In folk medicine, the fresh plant and flowering tops decoctions are used for kidney diseases, bleeding astringents, and to cure inflammations of the mucus membranes of the upper respiratory tract and gingivitis. The plant is also used as a rub to cure tumours, burns, ulcers and skin diseases caused by eating certain chemicals or the presence of mucus material tags, and as a sedative for certain disorders of the body. A root decoction is blood-cleansing and is used as a cathartic. It is a diaphoretic, expectorant, emollient and antipyretic.
- **Other uses**: The flowers are used raw as a decorative for the salad bowl, or as a garnish. The tender young leaves and young flowering shoots can be cooked and eaten as a vegetable. They are used for their flavour or taste in salads, soups and many other foods as well as because of their stimulant effect. Leaves with flowers are used as tea when drenched. Flowers are added to the vinegar to give a flavour, and to make jam and candy. Twigs are partially edible and a source of nectar for honey bees.
  A red dye is obtained from the root. This has been used as a base for some cosmetics.

❖ **Caution**: Care should be taken with the plant's hairs, which must be removed when the plant is used or dried. The plant's rough surface may cause skin irritation or inflammations. The plant contains the alkaloid cynoglossine, which has a paralyzing effect and is carcinogenic. Some species may contain toxic unsaturated pyrrolizidine alkaloids such as lycopsamine.

The complete flowering plant

- **Arabic name**: Himhim, Lesan Al-Thoor
- **Scientific name**: *Anchusa officinalis* L.
- **Common name**: Bugloss, Alkanet, Common Bugloss
- **Family name**: Boraginacea
- **Growth habit**: Herb
- **Life cycle**: Biennial or Perennial
- **Part/s used**: The whole plant, flowering stems, leaves, roots, and flowers.
- **Chemical constituents**: Bitter materials including columbine, casmanthrine, cenoglucine, consolirin and consolidine, anthocyanin, tannin, mineral elements, colouring materials, mucilage, potassium, calcium, nitrate, aklontoein, lanthoein, vitamin C and silicic acid. It also contains the alkaloids laburnine, acetyl-laburnine, the toxic alkaloids intermedine, lycopsamine and 7-acetyllycopsamine, amabiline, supinine and the non-toxic thesinine.
- **Pharmacological action**: The aerial parts of the plant are occasionally applied externally to contused injuries, ulcers from curries, sciatica, and for joints compressions and adjacent bones diseases. It is internally used as a mild expectorant. The plant is also used for eczema, kidney and respiratory system problems, rheumatism, cardiac diseases, arthritis, urinary system problems and chest inflammations. It reduces fever, headache and nerve problems. It is a sedative and heart relaxant, and is useful for dementia, throat pains, and gingivitis.
  In folk medicine, it is used as a depurative, as a prophylactic against chest inflammation and peritoneum, and for rheumatism, arthritis, coughs and pharyngopathy as well as phlebitis.

- **Other uses**: Its flowers are edible, and the leaves are used in salads, spices, teas and sandwiches. Leaves and flowers are used as a poultice, and flower colours are used in creams. The plant is attractive to honey bees.
- **Caution**: The plant causes constipation in certain cases. It contains toxic pyrrolizidine alkaloids such as lycopsamine, as well as non-toxic pyrrolizidine alkaloids like laburnine and acetyllaburnine.

- **Arabic name**: Humhum, Kahla, Lisan Al-Thoor, Masis
- **Scientific name**: *Anchusa strigosa* Banks et Sol.
- **Common name**: Prickly Alkanet
- **Family name**: Boraginaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves, flowering stems, flowers, and roots.
- **Chemical constituents**: Cynoglossine, consolidine, mucilage, silicic acid, pyrrolizidine alkaloids, glycosides, glucose, rhamnose, anthocyanins and ribose.
- **Pharmacological action**: The plant is used as an anti-tussive, and for chest, throat and lung inflammations, wounds, and burns. It is a laxative, diuretic, emollient and blood cleansing. It possesses an anticancer effect, and is a cure for chickenpox and measles. It is a purgative, febrifuge, and astringent for burns and wounds, has anti-ulcer and diaphoretic properties, and also treats kidney stones and arthritis, temporal paralysis, fevers, skin and respiratory system diseases, weariness, coughs and rheumatic pains. It has a mild to moderate hypotensive effect in cats.
- **Other uses**: The twigs are partially edible, and the plant is a source of nectar for honey bees. It is a common weed.
- **Caution**: The rough surface of the plant may cause skin irritation.

Anchusa strigosa

- **Arabic name**: Bithr Al-Dood
- **Scientific name**: *Andrachne telephioides* L.
- **Common name**: Bastard Orpine
- **Family name**: Euphorbiaceae or Phyllanthaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Roots and the whole plant.
- **Chemical constituents:** Akaloidal mixture.
- **Pharmacological action**: The roots are usually used in medicinal preparations. The plant treats ophthalmia and improves sight. The alkaloidal mixture stimulates respiratory action and blood pressure in dogs and cats. It also shows spasmolytic, neurotropic, musculotropic, and antihistaminic activity. It possesses antibacterial activity against many microorganisms. The plant is an expectorant and sputum repellent.
- **Other uses**: The plant is used in insecticides.
- **Caution**: Care should be taken as it is a poisonous plant.

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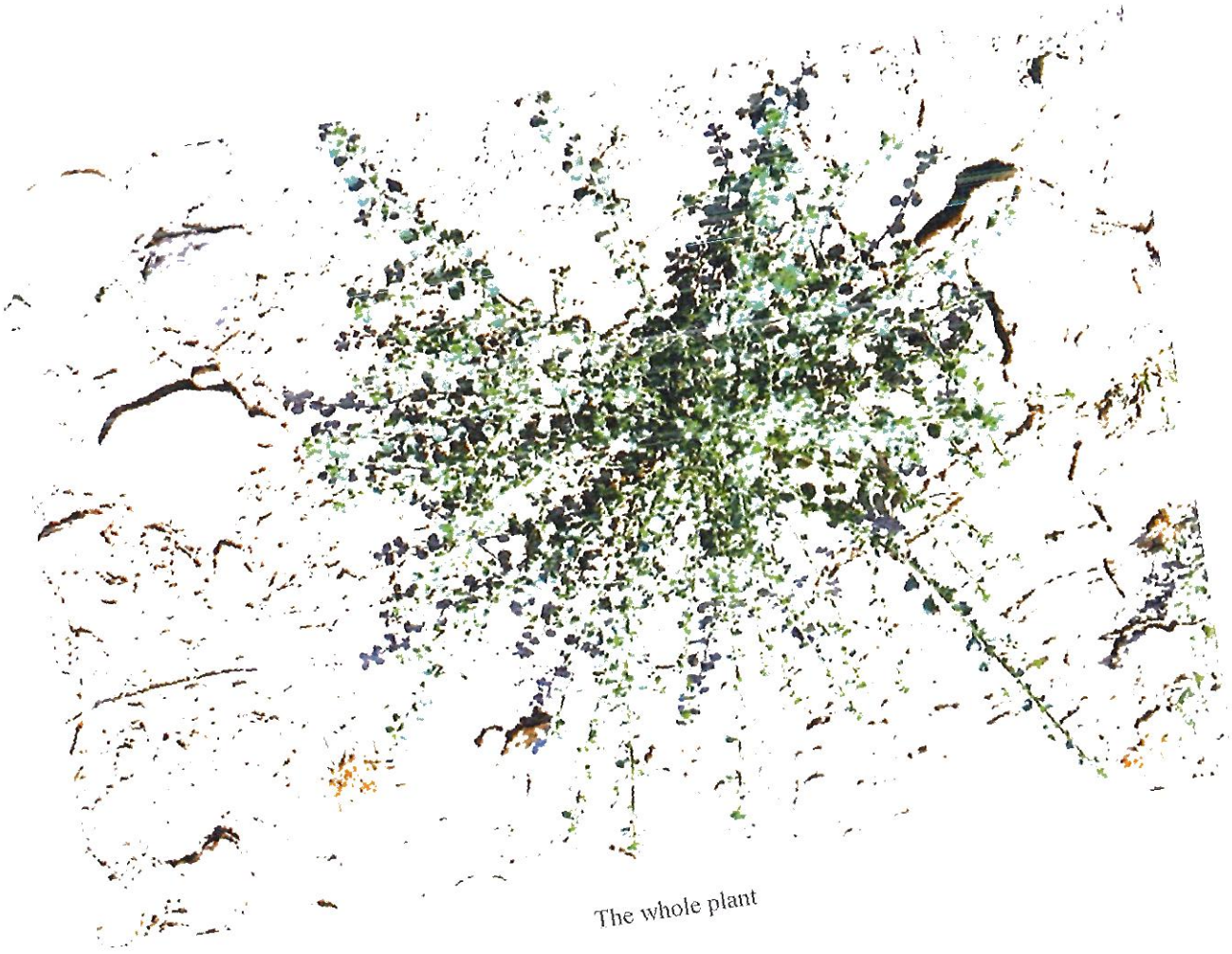
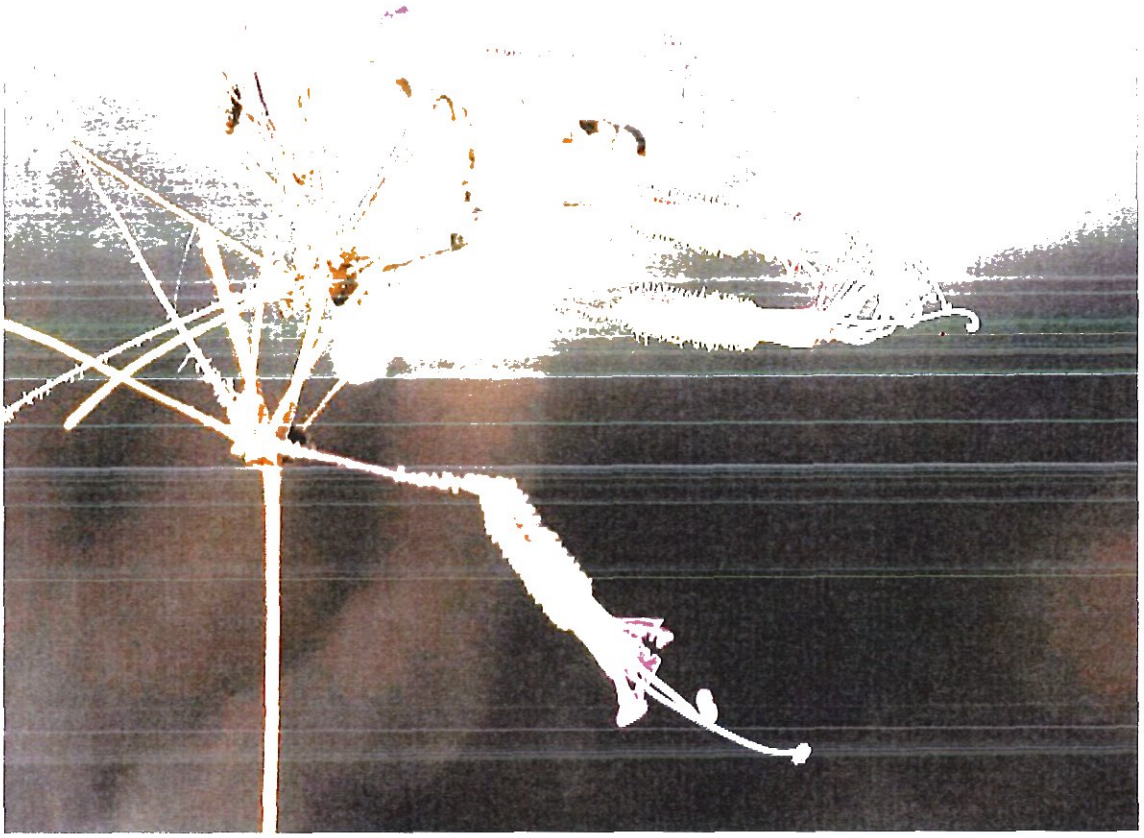


The whole plant

An important component of the ecosystem, mainly in the desert.

- **Arabic name**: Anemone, Shaqshaqiq
- **Scientific name**: *Anemone coronaria* L.
- **Common name**: Poppy Wild Flower, Corn Anemone, Anemone
- **Family name**: Ranunculaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Various parts of the plant, leaves, root, the whole plant.
- **Chemical constituents**: Volatile oil, protoanemone, anemonin, anemonic acid, ranunculin, saponin, tannin, resin, anemone oil, flavonoids, anthocyanins, triterpene saponins.
- **Pharmacological action**: The plant aids with headaches, tertian agues, rheumatism and gout. A leaf decoction cures leprosy and the leaf is a snuffer. Root chewing expels phlegmatic humours and lethargy, and chewed root can also be used as an ointment on eyelids to help cure ophthalmia and is excellent for cleaning malignant and corroding ulcers. However, the root is acrid with an irritant poison. The plant is antimicrobial, antifungal and mainly used for syphilis, as it kills bacteria and mould spores. It is an anti-spasmodic, used against whooping cough, urinary system inflammations and dysmenorrhoea. It cures haemorrhoids, and is anti-rheumatic and sedative. It is diuretic, and acts against liver and gallbladder diseases. It dissolves hard eye tumours, stops nose bleeding, and is a galactagogue and antiseptic. It is also useful for scabies and furuncles, is a laxative and anti-tussive, and is used for lung problems and insomnia. Leaves of the species *hepatique* contain sugars, enzymes, and saponins. They are used for sand, kidney stones, and wounds but in a pharmacological form.
- **Other uses**: It is a wild flower. A tincture is obtained from the flowers.
- **Caution**: Plants of all species are poisonous and affect the heart. Eating the plant may cause some minor symptoms such as rashes, vomiting, diarrhoea and sensitivity to the urinary system. Small amounts may not cause any symptoms. The plant is known to cause problems in animals. It is a genus in which some species may contain protoanemonins in the fresh herb, which are converted into a non-toxic anemonin by drying.

Different flower colours



- **Arabic name**: Iriq Halawa, Shirsh Halawa, Aslag, Rairai Ayoub
- **Scientific name**: *Ankyropetalum gypsophiloides* Fenzl (Syn. *Saponaria officinalis* L.)
- **Common name**: Soapwort
- **Family name**: Caryophyllaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Rhizome and the whole plant.
- **Chemical constituents**: Saponin, saporubrin and its acids, saporin, galactan, volatile oil, resin, triterpene glycosides, polysaccharides of saponin and gypsogenic acid from the roots. Triterpenoid saponins including saponariosides A and B (major) and others. In seeds, the ribosome-inactivating protein saporin is present.
- **Pharmacological action**: The plant is diaphoretic, expectorant, cathartic, emetic and dissolves mucus materials. It is useful for rheumatism, gout, asthma and piles. A plant decoction is used for skin parasites and rashes, joints, bladder ailments, and syphilis. The plant has antimicrobial, antibacterial, insecticidal, molluscicidal and haemolytic activity. Its drug is used for lung ailments.
- **Other uses**: The plant is grown for obtaining saponins from roots; it is used for washing clothes and especially woollen clothes. It is used in the halva industry. Saponin is a hair tonic and also used in the beer industry.
- **Caution**: The plant's root and seeds are of high concern. The plant is poisonous because of its saponins and cannot be used internally, but its decoction is useful for sores and eczema. The githagenin in the plant causes death to sheep a few hours after feeding on dry plants.

- **Arabic name**: Oqhuwan, Qehwan, Frakh Om-Ali
- **Scientific name**: *Anthemis cotula* L.
- **Common name**: Roman Chamomile, Dog Fennel, Mayweed, Stinking Mayweed
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Flowers, leaves, and the whole plant.
- **Chemical constituents**: Essential oil and its constituents, oxalic, alpha-lipoic and tannic acids, mineral elements including magnesium, iron, potassium, calcium, coloured pigments, fatty materials, sesquiterpene lactones, oil, bitter materials and flavonoids.
- **Pharmacological action**: The plant is astringent, diaphoretic, diuretic, emetic, emmenagogue, tonic, an excitant for uterus constrictions and a febrifuge. The plant shows antimicrobial and antispasmodic effects and cures insect stings. Its powder kills bugs and insects, helps asthma and gastritis and is anthelmintic. *Anthemis cotula* has been used to cure various intestinal ailments.
  In folk medicine, the plant is used in the treatment of hysterical conditions related to uterus problems. It is used as an infusion for rheumatism, epilepsy, asthma, colds and fevers. Externally, it is used as a poultice on piles or to withdraw splinters, and can be added to bathwater. Plant extracts are fat antioxidants.
- **Other uses**: It is a wild flower and an important plant for honey bees. Its leaves are used in tea, as are the flowers or the whole plant. The herb is a flavouring and mildly aromatic agent. The juices of *A. cotula* may be effective as an insect repellent.
- **Caution**: There are some reports on the plant's toxicity. Some people are allergic to the plant, causing them painful blisters. Allergic contact leads to prominent dermatitis on the arms and face and dramatically spread to the feet. The condition is seasonal. It is contraindicated for pregnant or nursing mothers and is poisonous for mammals.

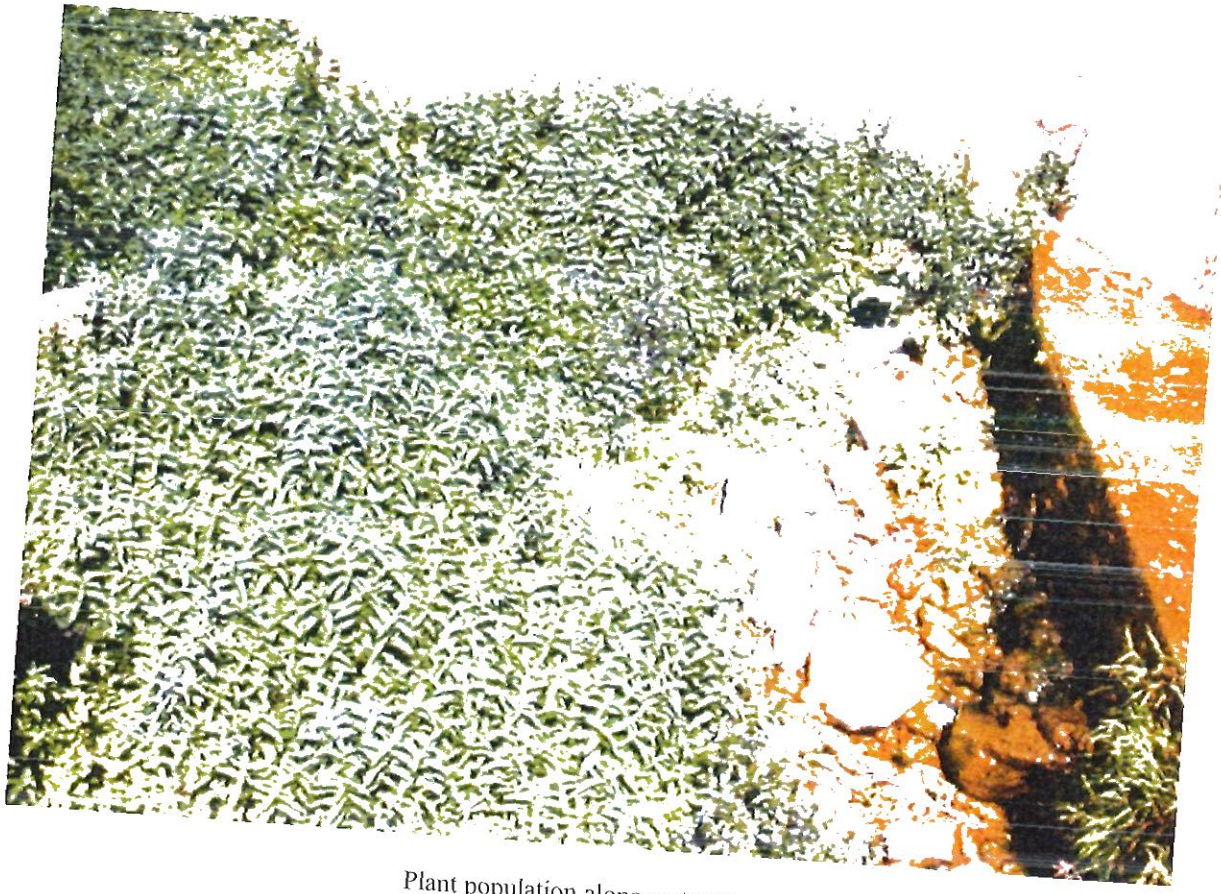
- **Arabic name**: Oghuwan Filistini
- **Scientific name**: *Anthemis palaestina* Reuter
- **Common name**: Mayweeds, Roman Chamomiles
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Flowering heads, heads of yellow flowers, leaves before flowering, and seeds.
- **Chemical constituents**: Coumarin, scopoletin-7–glycoside, flavones including apigenin, luteolin, quercetin, cyanogenic glycosides, prussic, tannic, and anthemic acids, bitter materials, toxic thujone, volatile oils (0.4-1.75%), alcohols including amil, isobutyl and anthemol. Fatty acids, phenolic acids, phytosterol, coline and anusetol are also present.
- **Pharmacological action**: The plant expels filament and ringworms, encourages blood circulation to the internal organs, is a sedative, and is used for bladder and prostate ailments, as well as uterine and ovary ailments in women. It is antispasmodic and emmenagogue, and is useful for asthma and breaking down stones. It is also used for uterine contractions and as a diuretic. It is externally effective against rheumatism, gout and neuralgia. A flower infusion is used internally for intestine problems, and as an anthelmintic and blood tonic (increases haemoglobin).
- **Other uses**: It is a wild flower plant.
- **Caution**: It is a poisonous plant, and its extract causes skin burns; it is an irritant and large doses cause dizziness, colic, chest ailments and may lead to death. The lethal dose for animals is 5g/kg of their living body weight.

Anthemis spp.

- **Arabic name**: Fam Samaka, Saysam, Saysam Nahr Al-Assi
- **Scientific name**: *Antirrhinum orontium* L.
- **Common name**: Calves-Snout, Weasel's Snout, Lesser-Snapdragon, Akker Leeuwenbekje, Danaburnu, Gallinaccia, Muflier Orontium
- **Family name**: Scrophulariaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves and seeds.
- **Chemical constituents**: Alkaloids, aurone glycosides, and fixed oil in seeds of a lower quality than olive oil.
- **Pharmacological action**: It is astringent, stomachic, bitter, stimulant and cleansing. It is used for liver problems, scurvy and tumours. Leaves of many similar species are used for tumours and ulcers.
- **Other uses**: It is a wild flower, and was previously used to protect against magic.
- **Caution**: No reports.

- **Arabic name**: Ain Al-Thoor, Naqd, Ghadrit Al-Dub
- **Scientific name**: *Anvillea garcinii* (Burm. Fil.) DC.
- **Common name**: Arabian Oxeye
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Leaves, flowers, and seeds.
- **Chemical constituents**: Tannin, calcium oxalates, saponin, pectin, and a sesquiterpenic lactone.
- **Pharmacological action**: It is antibacterial, anti-cancer and anti-tumour, and is used for colds, diabetes, digestion and other digestive system problems, as well as dyspepsia and pneumonia. Shepherds use the plant as a tonic, stimulant and anti-inflammatory.
  In folk medicine, in some countries, it is used in the form of infusions to reduce diarrhoea and calm the respiratory system, and the plant decoction cures liver diseases. Seed flour mixed with honey and olive oil is an excellent remedy for colds, as is a leaves infusion with olive oil. Some herbalists prepare a composition of seed powder mixed with *Nigella sativa* and *Lepidium sativa* seeds to treat colds, but this is not suitable for children or pregnant women.
- **Other uses**: A wild flower and forage species.
- **Caution**: No reports.

- **Arabic name**: Krafs Barri, Qurrat Ein, Qurra
- **Scientific name**: *Apium nodiflorum* (L.) Lag.
- **Common name**: Fool's Watercress, Dwarf Celery, Wild Celery
- **Family name**: Umbelliferae / Apiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Oil, seeds, leaves, and roots.
- **Chemical constituents**: Essential oil, apiin, asparagine, limonene, myristicin, β-pinene, p-cymene and bergapten in seeds.
- **Pharmacological action**: The leaves and roots are edible and used in folk medicine for stomach aches, as a diuretic, stomach tonic, carminative, appetizer, anti-rheumatic, sedative, refrigerant, and antispasmodic, and in dough stuffing. It helps the body's use of oxygen and stimulates the metabolic rate. It increases endurance, stamina and improves the heart's response. It is also used for bladder, kidney and liver problems and to dissolve kidney stones. Seeds are stomachic, aromatic, kidney stimulant and aphrodisiac. The plant is a detoxicant. The ingestion of soft stems increases lactation after birth.
- **Other uses**: The plant is used as a culinary herb, in soups, as a cooked vegetable and in pickles. It is used in cakes and pastries. It is also an animal feed plant.
- **Caution**: Apiin, when consumed in considerable doses, causes abortion. The oil should be avoided during pregnancy and high seed doses act as a uterus stimulant. The bergapten in seeds may increase photosensitization, and therefore oil should never be used externally and then exposed to sunlight.



Plant population along waterways

- **Arabic name**: Al-Nassi
- **Scientific name**: *Aristida plumosa* L.
- **Common name**: Desert Grass
- **Family name**: Gramineae / Poaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole plant
- **Chemical constituents**: Phenols and tannin.
- **Pharmacological action**: It has been mentioned by some authors that this plant is used for human nutrition and medicine in Egypt and Saudi Arabia.
- **Other uses**: It is a forage species, and is fed to cattle and used as turf, fuel, a sand dune binder and wild flower. The grains are used in food.
- **Caution:** No reports.

- **Arabic name**: Othun Al-Qitt, Abu-Ghulione, Khyar Al-Ghanam, Athan Al-Qit
- **Scientific name**: *Aristolochia maurorum* L.
- **Common name**: Pipe Vine, Birthwort
- **Family name**: Aristolochiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves, rhizomes, the whole plant with flowers, roots, seeds, vegetative branches, and closed flowering buds.
- **Chemical constituents**: Highly toxic aristoloctin, volatile aromatic oil, tannins, resin, saponins, sugars, aristolochic acid, alkaloids and bitter materials.
- **Pharmacological action**: The plant is antiphlogistic, antispasmodic, diaphoretic, diuretic and emmenagogue. It is used for wound healing, eczema, and sores. It helps heart contractions, and is a vasodilator and a respiration excitant. Plant decoctions cure nail inflammations, gout, malaria, dropsy, hypertension and chronic coughs. The plant is an antiplatelet, cytotoxic and an antidote for snake bites.
- **Other uses**: A wild flower.
- **Caution**: The plant is never to be used internally and only under medical supervision since it is toxic. Large doses cause heart disorders and dyspnoea.

Aristolachia sp. flowering stage

Aristolachia sp. fruiting stage

Aristolachia sp.

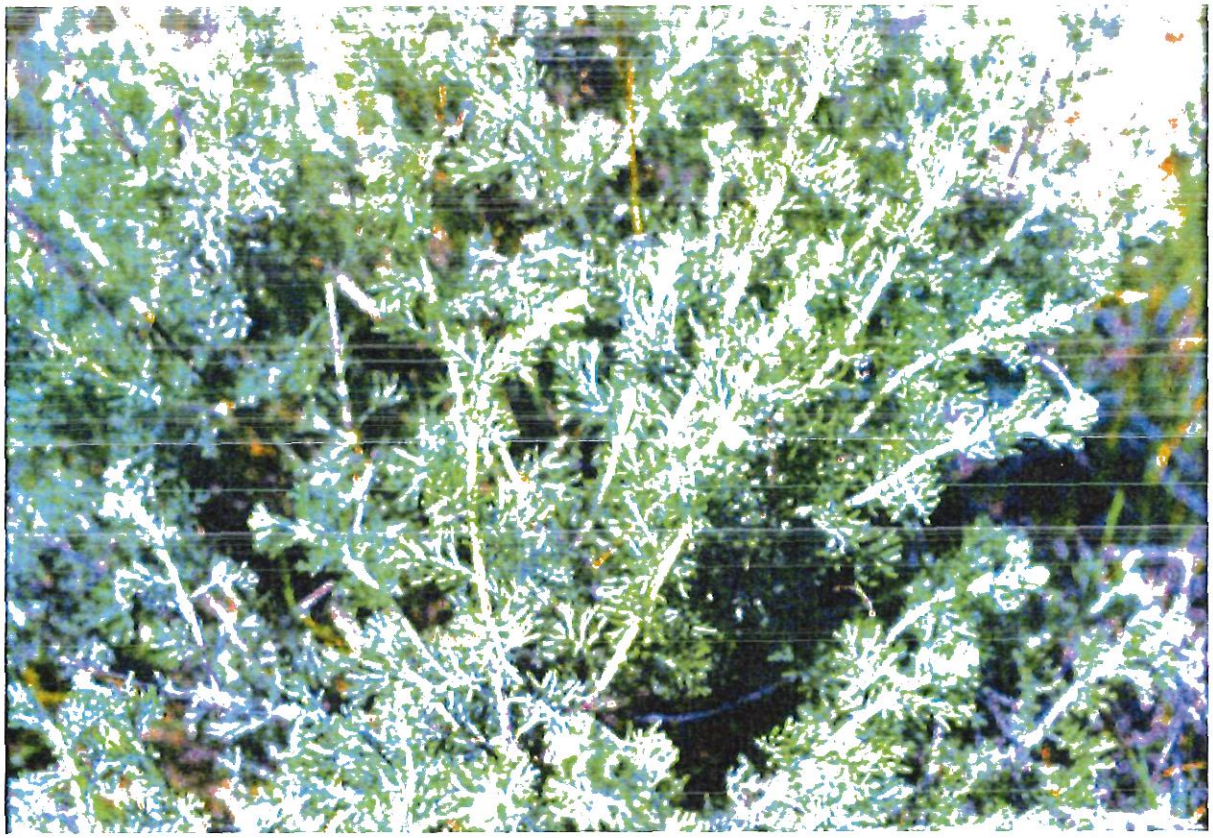
- **Arabic name**: Kihl Mutagi'I, Hmaira, Kihla, Kahl
- **Scientific name**: *Arnebia decumbens* (Vent) Coss. Et Kral
- **Common name**: Arabian Primrose
- **Family name**: Boraginaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves, roots, and the whole plant.
- **Chemical constituents**: Pyrrolizidine alkaloids, naphthoquinones like shikonin, flavonoids, phenolic compounds, tannin, sterols, procyanidins, carotenoids, anthocyanidin, gallic acid, catechin, p-coumaric acid, coumarin, isoquercitrin and quercetin.
- **Pharmacological action**: It is an antioxidant, antiviral and antibacterial species used especially against methicillin-resistant species such as *Staphylococcus aureus* ATCC 6816, *Pseudomonas aeruginosa*, *Escherichia coli* and *Klebsiella pneumonia*, and shows stronger effects than those of polymyxin B. The plant is an antiphlogistic, anti-tumour and immune tonic; it is also used for fevers and especially against malaria.
- **Other uses**: A red pigment is obtained from the roots. The plant is a wild flower.
- **Caution**: No reports.

Arnebia tinctoria

- **Arabic name**: Artedia horshifa, Artedia Hurshifyah
- **Scientific name**: *Artedia squamata* L.
- **Common name**: Crown Flower, Fennel-leaved Flower
- **Family name**: Umbelliferae / Apiaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Seeds
- **Chemical constituents**: Phenols, oil-rich in α-pinene, camphene, β-myrcene, careen and limonene.
- **Pharmacological action**: The plant is an antioxidant, and its seed infusion is used for stomach pains. The plant is important for food and drugs. The seeds are also used for dyspepsia.
- **Other uses**: It is a wild flower plant.
- **Caution**: No reports.

The flower

- **Arabic name**: Artemisia, Sheeh Khurasani, Ebaithran, Baithran, Habaq Al-Rai, Artemisia
- **Scientific name**: *Artemisia absinthium* L.
- **Common name**: Wormwood
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Aerial parts.
- **Chemical constituents**: Essential oil may contain up to 3.7% eucalyptol, thujone (1.3%), and camphor (0.19-9.30%); bitter materials, flavonoids, tannins, silica, antibiotics from many acetylenes, insulin, and hydroxyl coumarins.
- **Pharmacological action**: The plant is analgesic, calefacient, carminative, hypertensive, stomachic, bitter, choleretic and anthelmintic.
  The herb is an antidote for poison, prevents seasickness, and is an insect repellent, a flavouring for liqueurs, and tonic, digestive, anti-nausea, febrifuge, emmenagogue, and vermifuge. The plant extract is antiseptic, insecticidal and aromatic (absinth wine), and is used in the production of various liqueurs. A tincture obtained from the plant is used for digestive system diseases, dyspepsia and stomach worms. It is a sedative and carminative, and is used for colds and to enhance bile secretion. The oil increases bile releases, is appetitic in low doses and is used in medical formulations and the food industry.
- **Other uses**: It has a bitter flavour. It is an ornamental plant used for herb wreaths and dried arrangements, and is also an insect repellent.
- **Caution**: The plant is toxic if consumed in large quantities, and its essence is also toxic (epileptic complaints). Its intake for a long period usually results in brain damage, and overdoses may harm the nervous system, therefore its intake should be carried out under full medical supervision. The tincture is not to be used during pregnancy. The period of the plant's use should not be longer than 4-5 weeks. The plant must be avoided by pregnant women since it stimulates the uterus and may lead to fatal abnormal growths, since thujone may be released into the baby through the mother's milk. In cases of a tincture's use for liver or digestive system disorders, the hot water method should be followed in order to reduce the alcohol level.



- **Arabic name**: Sheeh, Sheeh Abyad Al-Urooq, Sheeh Al-Arab, Sheeh Roomi
- **Scientific name**: *Artemisia herba-alba* L.
- **Common name**: Wormwood
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Flowers, seeds, dried heads of inflorescence, flowering heads, mature closed flowers, black non-woody roots, tubers after flowering, fresh extract, and the whole plant.
- **Chemical constituents**: Flowers contain volatile oil (0.3-1.6%), glucosides santonin, artemisinin, absintin, camphor, camphen, eucalyptol, myricene, borneol, flavonoids, polyphenolics, 1,8 cineole, a-thujone and b-thujone, thujone glycoside, oxygenated monoterpenes including terpinen-4-ol, camphor, cis-chrysanthenyl acetate, cis-chrysanthenol, chrysanthenone, borneol, camphene, esters of anglic, taglic, and chlorogenic acids, sesquiterpene davanone, sesquiterpene lactone, flavone derivatives, protein, balanced amino acids, saponin, vitamin C, sugars, fats, flavonoid glycosides, Ca, Na, Mg, K, Cu, Zn, Fe, and amino acids. In addition, aspartic and glutamic acids were particularly abundant, as well as anthmol, anthamin, azoline trihydroxide flavones, santolina and omega alcohol, eudesmanolide and germacranolide sesquiterpenes. Bioactive flavonoids, assumed to be hispidulin and cirsiliol, are also present.
- **Pharmacological action**: It is antimicrobial, antibacterial, anti-pleurisy, diuretic, antispasmodic, and sedative. It is a muscle relaxant, antiseptic, and inhibits the haemolytic activities of snake and scorpion venoms. The volatile oil is anti-diabetic, and is used in hair pomades and for anti-alopecia purposes. The plant is used for chest ailments, stomach aches, coughs, diarrhoea, fever, poisoning, vomiting, lung disease, flatulence, tonic, skin trouble, dysentery, amenorrhoea, hysteria, epilepsy, and haemorrhoids, eases birth and is useful for back ailments. It is a detoxicant. A plant decoction is a remedy for abdominal colic, dyspnoea, asthma, laryngitis, and fevers, and is an expectorant. Its infusion cures ophthalmia, regulates cardiac pulses, and is used for liver and bladder disorders.
  The santonin is an anthelmintic, especially against tapeworm. It cleans the uterus after childbirth, is useful for lung diseases, reduces temperature, cures skin sores and is a hair tonic.
  In folk medicine, the plant is used for enteritis, toothache and various intestinal disturbances. An aromatic hair ointment is prepared from the plant for anti-alopecia purposes. The Bedouins use the essential oil as an antibacterial and in the treatment of diabetes mellitus. Its tea is a tonic, and macerated leaves with olive oil are used for skin lesions, and are an emmenagogue, intestinal antiseptic, carminative, stomach tonic, cholagogue, and depurative and are used for palpitations.

- **Other uses**: Green plant parts are used in tea to expel worms and relieve intestinal colic. The plant is widely used as a fuel and exploited as forage. It is a snake, insect and mosquito repellent in suburban areas and bird farms.
- **Caution**: The bitter constituent in the essential oil is toxic. Overdoses cause diarrhoea, vomiting, nerve disorders, headaches and a gradual reduction in sight because of the santonin.

- **Arabic name**: Sheeh, Bai'thran
- **Scientific name**: *Artemisia vulgaris* L.
- **Common name**: Mugwort, Damong Maria Mugwort, Common Wormwood, Wild Wormwood
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Aerial parts.
- **Chemical constituents**: Essential oils. The leaf oil is rich in 1,8-cineole, a-thujone, b-thujone, camphor and isoborneol, artemisia alcohol, naringenin, as 5,7,4' trihydroxy flavone, elemol, limonene, □-eudesmol and spathulenol, flavonoids, triterpenes, and coumarin derivatives. Terpenes, including camphor, eucalyptol, □-pinene, and □-pinene flavonoid aglycones. Lauric acid-free soap bases are present.
- **Pharmacological action**: The plant is antiseptic, anti-diabetic, roborant, antiphlogistic, an appetizer, emmenagogue, used against intestinal worms and snails, molluscicidal, anti-skin diseases, orexigenic, stomachic, anthelmintic, tonic, digestive, cholagogue, antispasmodic, antimicrobial, antipruritic, and an immunostimulant. The extracts and volatile oil have strong antioxidant activity. The oil is a soothing agent, muscle relaxant, and used in a perfume to regulate and balance female monthly periods. It is also believed to promote one's psychic powers. It is diuretic, diaphoretic, and brings on menstruation and women's remedies. An infusion of the plant is a stimulating tonic for tired blood, and is helpful for palsy, fits and epileptic affections. It is used for cardiac complaints, feelings of unease, unwellness and general malaise, moxibustion, healing properties and heat release. It is effective at increasing the cephalic positioning of foetuses and is used to cause abortion.
  Soap or cosmetic lotion compounds have inhibitory effects against skin stains, itchiness, rashes, endocrine skin diseases, and atopic dermatitis for pet animals and humans. A lotion moisturizes the skin and has an antiphlogistic action, as well as biting- and stinging-inhibiting effects.
- **Other uses**: It is used as a flavouring for drinks.
- **Caution**: The pollen is the cause of several allergies including hay fever. The plant should be avoided by pregnant women, since it contains thujone.

- **Arabic name**: Loof Mraqat, Loof Mbarqash
- **Scientific name**: *Arum dioscoridis* Sibth. and Kit.
- **Common name**: Spotted Arum
- **Family name**: Araceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Rhizome, leaves, fruits, and seeds.
- **Chemical constituents**: The milky extract contains calcium oxalate, aronin, saponins and starch.
- **Pharmacological action**: The plant cures respiratory tract diseases, colds, rheumatism, tumours, and eyesores, and is an insect repellent. Its fruits and seeds are used for warts. The rhizome, with powders of other plant species, is a digestive. The leaves and seeds are expectorants.
- **Other uses**: Rhizomes are rich in starch, and can be cooked or baked and eaten after baking its flour. The leaves are dried and eaten after being cooked. It is an ornamental species in gardens and is regarded as a wild flower.
- **Caution**: Some species of *Arum* are known to contain oxalate raphides, glycosidic saponins (aronin), lignans, and neo-lignans. The plant is poisonous in all its parts, causes mouth and mucus membrane burns, nausea, and dizziness. It should never be collected for self-medication under any circumstances. Fruits and rhizomes cause death to children if ingested, and cause mouth burning, harmful effects on the heart, vomiting, severe aches to muscles, diarrhoea and lip burns. In animals, symptoms include salivation, neck swelling, a lack of concentration and disturbance, meagreness and death.

- **Arabic name**: Loof, Loof Abga'a Sam
- **Scientific name**: *Arum hygrophilum* Boiss
- **Common name**: Adam and Eve, Cuckoopint, Lords-and-Ladies. Arum, Starchwort, Adder's Root, Bobbins, Friar's Cowl, Kings and Queens, Parson and Clerk, Ramp, Quaker, Wake Robin, Green Arum, Water Arum.
- **Family name**: Araceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Root, rhizomes, and small tubers.
- **Chemical constituents**: The fresh tuber contains a volatile material, the acrid principle, and starch, albumen, gum, sugar, extractive, lectin, lignin and salts of potassium and calcium. Also present are calcium oxalate, which gives a burning taste, saponin, an alkaloid resembling coniine in its properties, aronin and aronidin, a glucomannan isolated from the leaves and prussic acid when injured, and a product of certain glucosides called cyanophoric glucosides. Fresh leaves and berries contain apigenin, luteolin, luteolin-7-O-glucoside, quercitrin, rutin, orientin, isoorientin, vitexin, isovitexin, saponarin, p-coumaric acid, caffeic acid, chlorogenic acid, aronin (glycosidic saponin) and oxalates.
  Rhizomes consist of protein, oil, sugar, starch, ash, crude cellulose, and free amino acids.
- **Pharmacological action**: The fresh root when beaten up with gum is recommended as a good pill, retaining all medicinal properties. The dried root is a diuretic and stimulant, used for alarming dropsy. The juice of the fresh tuber is violently purgative. It is a homoeopathic tincture for a chronic sore throat with swollen mucous membranes and hoarseness, and likewise for a feverish sore throat. An ointment made from tubers with lard is an efficient cure for ringworm and the juice of fresh plants has a similar effect. A preparation made from tubers is used to treat respiratory conditions and snake bites.
- **Other uses**: The rhizomes are rich in starch and thus can be baked and eaten, although it is not advisable to eat its bread even when well-baked. Leaves can be eaten after being dried and cooked, similar to other *Arum* species. The plant is considered as an ornamental and is grown in gardens, and as a wild flower.
- **Caution**: Some species are known to contain oxalate raphides, glycosidic saponins (aronin), lignans, and neo-lignans. The plant should not be collected for use in self-medication since all parts are toxic. The plant's juice burns the skin, causes sores and is poisonous when leaves or tubers are eaten. The berry fruits and rhizomes are fatal to children if eaten; however, their toxicity is lost upon drying. The plant contains strong irritating materials with a harmful influence on the heart. Toxicity symptoms include vomiting, severe muscle ailments, diarrhoea, burning in the mouth and mucus membranes, nausea and dizziness. In animals,

symptoms include salivation, neck swelling, loss of concentration and disturbance, meagreness and death. The freshly sliced tuber, when applied to the skin, produces a blister.

Plant population

Seeding stage

- **Arabic name**: Loof Falasteny
- **Scientific name**: *Arum palaestinum* Bioss
- **Common name**: Palestine Arum
- **Family name**: Araceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Rhizome, leaves, fruits, and seeds.
- **Chemical constituents:** Oxalates, saponins, aroidin, and aronin.
- **Pharmacological action**: The rhizome is used with powders of other plant species as a digestive. Its leaves, fruits and seeds are expectorants. The plant cures respiratory tract diseases, colds, rheumatism, tumours and eyesores. It is an insect repellent and the fruits and seeds are used for warts. A decoction of leaves is used externally for rheumatism.
- **Other uses**: Rhizomes are rich in starch, and their flour is cooked or baked and eaten. Dried leaves are eaten after being cooked. It is an ornamental species in gardens and a wild flower.
- **Caution**: Some species are known to contain oxalate raphides, glycosidic saponins (aronin), lignans and neo-lignans. Its fruits and rhizomes cause death when eaten by children. They also cause mouth burning, harmful effects on the heart, vomiting, severe muscle aches, diarrhoea and lip burns. In animals, symptoms include salivation, neck swelling, a lack of concentration and disturbance, meagreness and death. The insoluble calcium oxalate is also toxic.

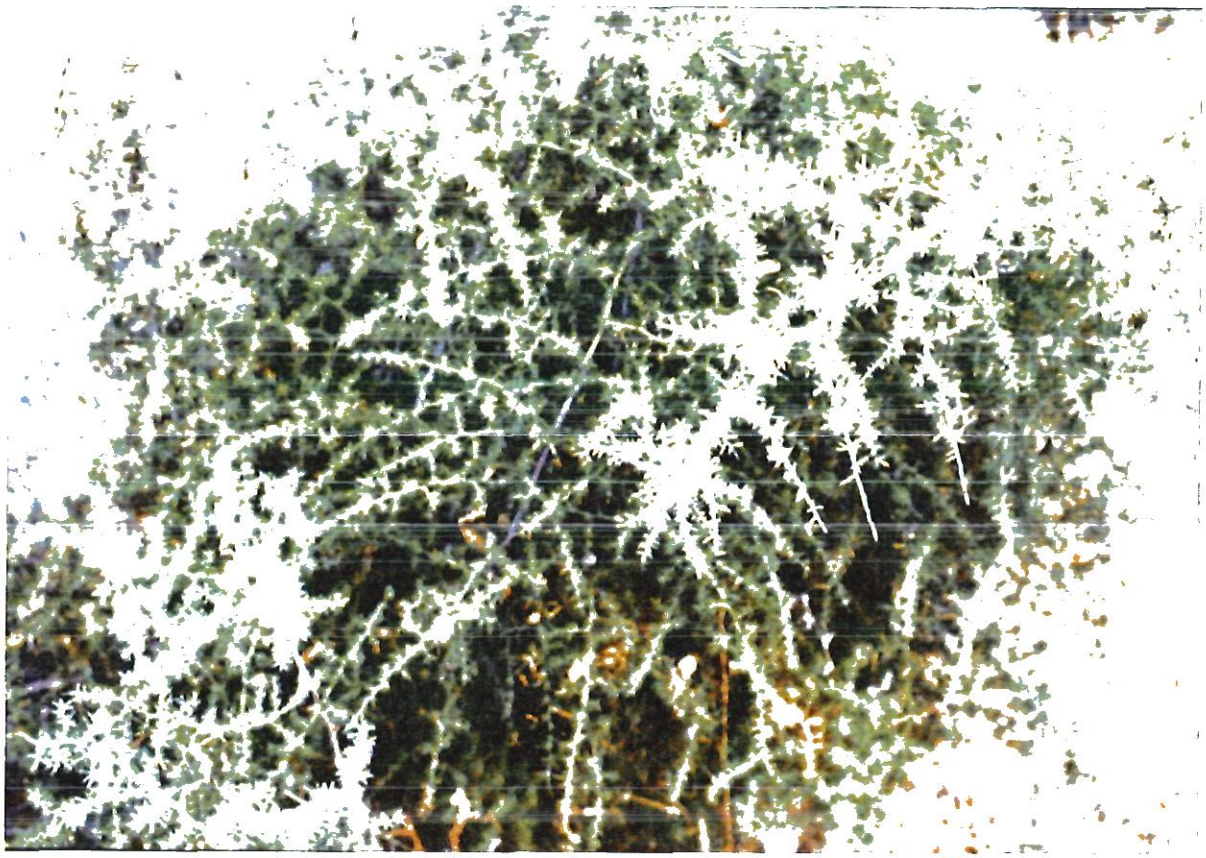
The plant at an early stage of vegetative growth

- **Arabic name**: Qussaib, Ghab Emlaq
- **Scientific name**: *Arundo donax* L.
- **Common name**: Arrow Reed, Red Grass, Giant Cane
- **Family name**: Gramineae / Poaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Rhizomes and roots.
- **Chemical constituents**: Alkaloids, fibre, semi-alkaloids, resin, volatile oil, sugar, donaxin, gramine, silice, calcium and potassium salts.
- **Pharmacological action**: Rhizomes are anti-galactogogue, depurative, diaphoretic, antispasmodic, diuretic, emollient, hypotensive and sudorific. The plant stimulates the menstrual flow and is used for dropsy, and warm sap is used for infected eyes' treatment. The root or rhizome boiled in wine with honey is used for cancer. The root is a galactofuge, and is used as a paste to treat headaches. Alkaloids raise blood pressure and constrict the intestine and uterus. The plant contains the alkaloid gramine as a vasopressor, which raises blood pressure in dogs in small doses, and decreases it in larger doses. It is included in the preparation of cosmetic formulations (skin, body, and hair), presenting local slimming properties by reducing the lipidic load. The stems have been used as splints for broken limbs.
- **Other uses**: The plant's pulp gives a long fibre component to the secondary fibre to produce a stronger sheet in paper production. The plant stem is usually used as a stick to climbers.
- **Caution**: The root and rhizome contain indole alkaloids and donasine.

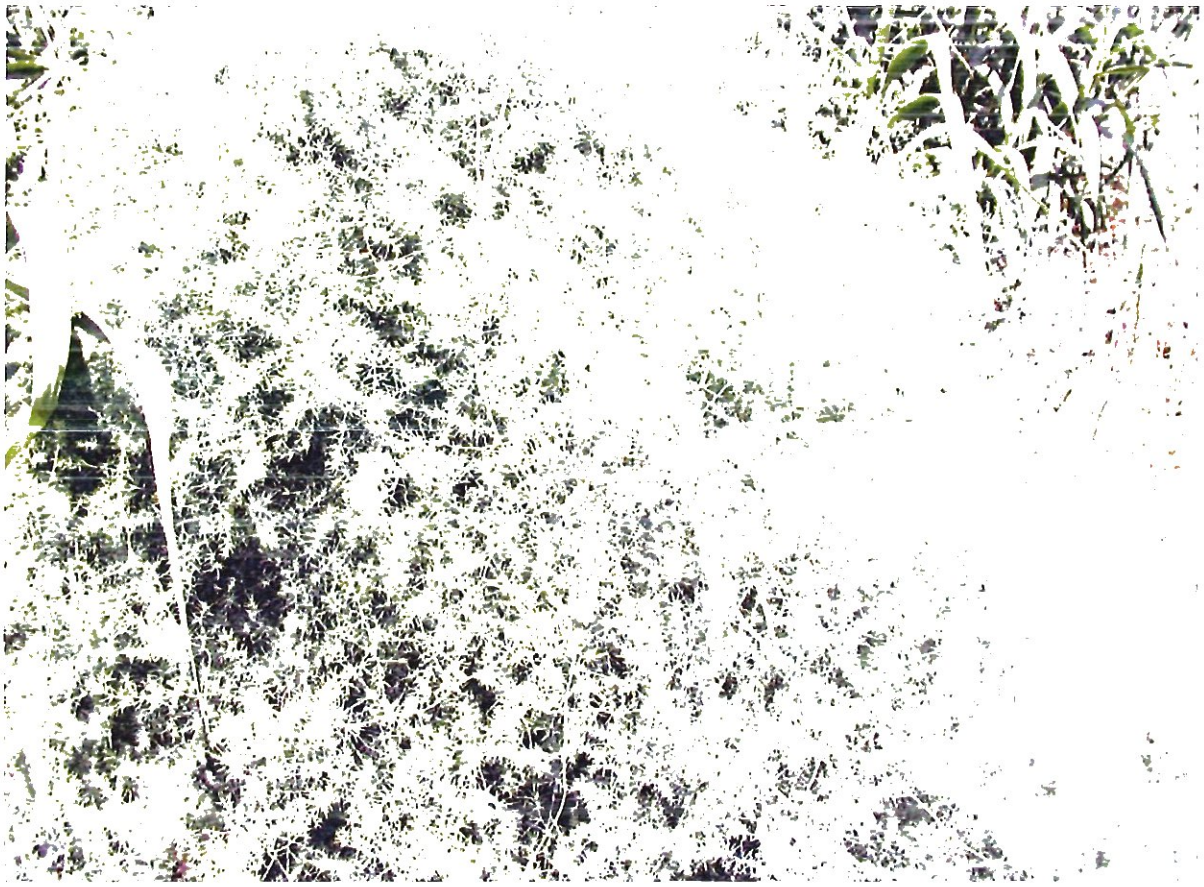
Vegetative growth

Plant population in water way

- **Arabic name**: Nardeen
- **Scientific name**: *Asarum europeum* L.
- **Common name**: Wild Gingeras, Asabacca
- **Family name**: Aristolochiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole plant.
- **Chemical constituents**: Aristolochic acid, essential oils, safrole, methyl eugenol and asarone.
- **Pharmacological action**: It is a disinfectant, and prevents and cures skin flare, malaria, headaches, and chest distress in mixtures with other herbs. It is also used in cosmetics containing plant extracts, and as a home herbal remedy as a diuretic and urinary stimulant. The plant is anti-pyretic, and is associated with increases in blood pulses, rheumatism, intestine and stomach diseases, colic and bladder convulsion. It is also used for the liver and strengthens menstruation. Boiled roots and stems are made into a liquid solution for consumption. The plant is an antiseptic, a general first aid, and deodorant, and is claimed to remove warts. It has been suggested to be carcinogenic, and it also possesses a fungicidal activity.
- **Other uses**: It can be used in culinary preparations. The herb is a spice, though its potency as a diuretic makes some chefs refrain from using it in cooking.
  The plant's roots and stems are used as a herbicide. The dried root may be burned and used as an insect repellent. Some species of *Asarum* contain the toxic aristolochic acid used in rodent poisons.
- **Caution**: Strong caution should be taken when handling *Asarum*. Touching the herb can cause skin irritation. The aristolochic acid in flowers can cause cancer, kidney failure, and cell mutations. A medical professional should be consulted prior to using the plant. It is known to contain up to 50% of beta-asarone in its essential oil.



- **Arabic name**: Holion, Zahr Alhawa, Jarbou'i
- **Scientific name**: *Asparagus acutifolius* L.
- **Common name**: Wild Asparagus, Asparagus
- **Family name**: Liliaceae / Alliaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Young shoots, rhizomes, and roots.
- **Chemical constituents**: Vitamins A, C and E, folacin, potassium, small amounts of iron, and alkaloids. Aerial parts' extract is rich in phenolics, and flavonoids exhibited the highest amount of antioxidants. The plant contains tannins, terpenoids, saponins and steroids in the aerial parts.
- **Pharmacological action**: The plant is a vasodilator, antioxidant, cooling, and diuretic and is effective against gout, stomach ache and dysentery. The root's powder is applied or placed on the body for any kind of swelling in human beings. The root's paste is applied externally for snake bites, to cure urinary disorders, for discharges of blood in urine, and to treat headaches resulting from sunstroke. Asparagus contains substances that act as a diuretic, neutralize ammonia that brings on tiredness, and protect small blood vessels from being ruptured. Its fibre content makes it a laxative herb. It cures heart and kidney diseases.
  In folk medicine, the plant's decoction is used for headaches and in treatments of jaundice and liver disorders. The plant is used for treating rheumatic and respiratory conditions, controlling the heart's rhythm, and is good for anaemia, but can also cause insomnia.
- **Other uses**: Green asparagus is a good source of vitamin C and folacin; it contains moderate amounts of vitamins A and E, potassium and small amounts of iron. The freshly cooked spears also contain lots of fibre. They are low in calories and sodium. The plant is an ornamental.
- **Caution**: No reports.

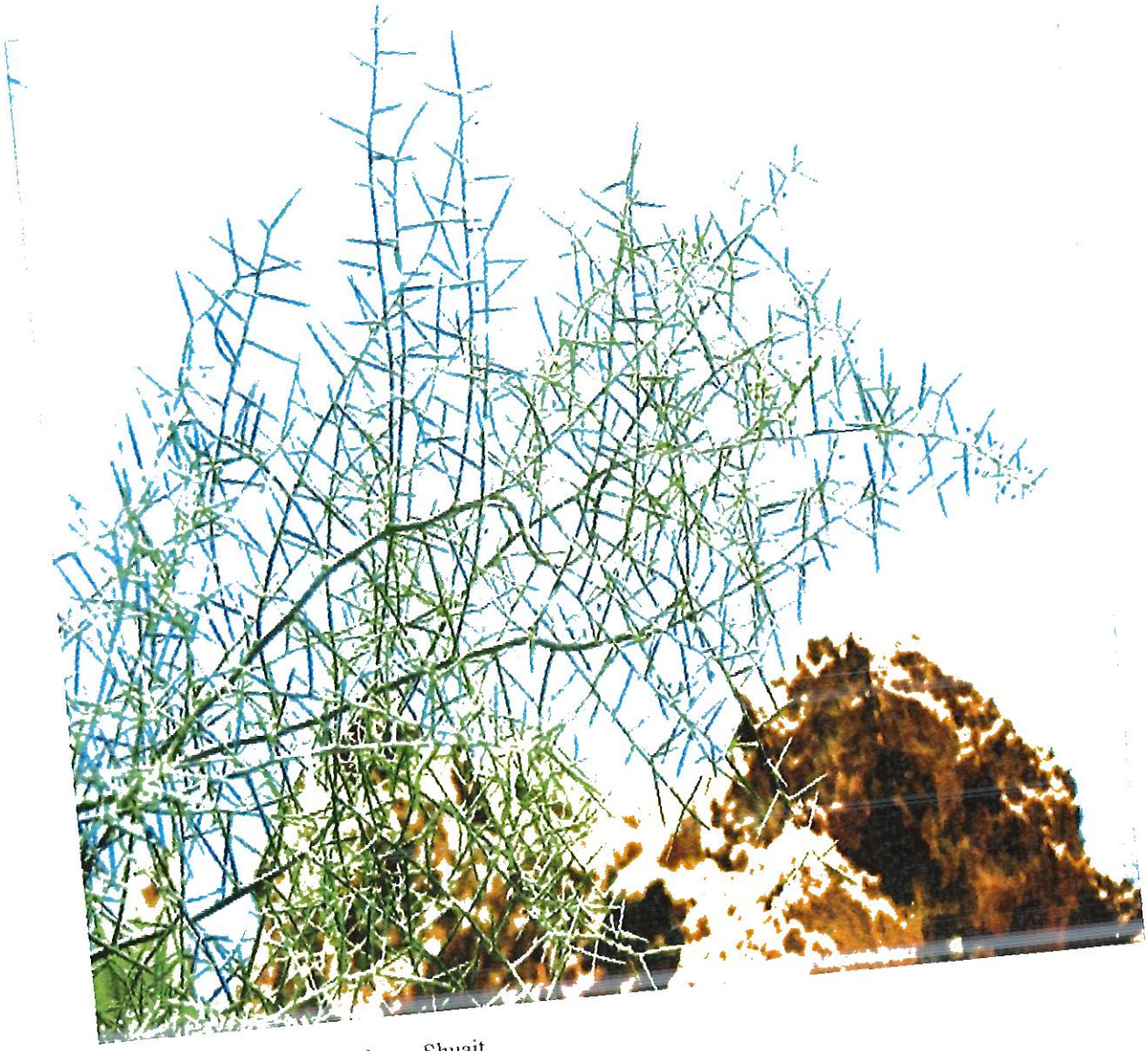


- **Arabic name**: Helawan Al-Hirsh, Holion Naim, Asparagus, Sharhala Nwail, Zahr Al-Hawa
- **Scientific name**: *Asparagus aphyllus* L.
- **Common name**: Leafless Asparagus, Prickly Asparagus
- **Family name**: Liliaceae / Alliaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Underground rooting system, stems, and new young shoots.
- **Chemical constituents**: The plant is a source of low energy. It contains folic acid and potassium. The stems contain high percentages of antioxidants. Some compounds present in the plant give a distinct smell to urine because they yield, upon analysis, sulfur, thiols, thioesters and ammonia. The volatile organic compounds responsible for the smell are methanethiol, dimethyl sulphide, dimethyl sulphoxide, methyl sulphone and asparagusic acid and its derivatives. It contains sulfur compounds specific to asparagus. The plant is a good source of vitamin C that helps the body produce collagen and preserves it as a main component of protein in the conjunctive body tissues.
- **Pharmacological action**: The plant is useful for cardiac diseases, and folic acid is very useful for pregnant women and to protect nerves in children. It is diuretic, antispasmodic and sedative. It also reduces high blood pressure and heart attacks. It protects some blood vesicles from rupturing and its fibre content makes it a laxative. Traditionally, the underground root system is used for the same purposes.
- **Other uses**: An ornamental plant.
- **Caution**: No reports.

Cultivated in the field

Amra palace

- **Arabic name**: Holion, Zahr Al-Hawa
- **Scientific name**: *Asparagus sprengeri* Regel
- ***Common name***: Asparagus
- **Family name**: Liliaceae / Alliaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Young stems
- ***Chemical constituents***: *Asparagine, coniferin, vanillin and resin. New spirostanosides in roots as* 3-O-[β-D-xylo-(1→4)-β-D-gluco]-(25R)-spirost-5-en-3β-ol, 3-O-[α-L-rhamno-(1→6)-β-D-gluco]-(25R)-spirost-5-en-3β-ol, 3-O-{[α-L-rhamno-(1 → 2)] [β-D-xylo-(1→4)]-β-D-gluco}-(25*R*)-spirost-5-en-3β-ol and 3-*O*-{[α-L-rhamno-(1→2)] [α-L-rhamno-(1→6)]-β-D-gluco}-(25*R*)-spirost-5-en-3β-ol and mineral elements.
- **Pharmacological action**: It is a vasodilator and a cure for heart, kidney and urinary system diseases. It is used as a diuretic, for treating rheumatic and respiratory conditions, controlling the heart's rhythm, and is good for anaemia, but it can also cause insomnia.
- **Other uses**: A wild flower.
- **Caution**: The plant contains toxic alkaloids that are toxic to cows.

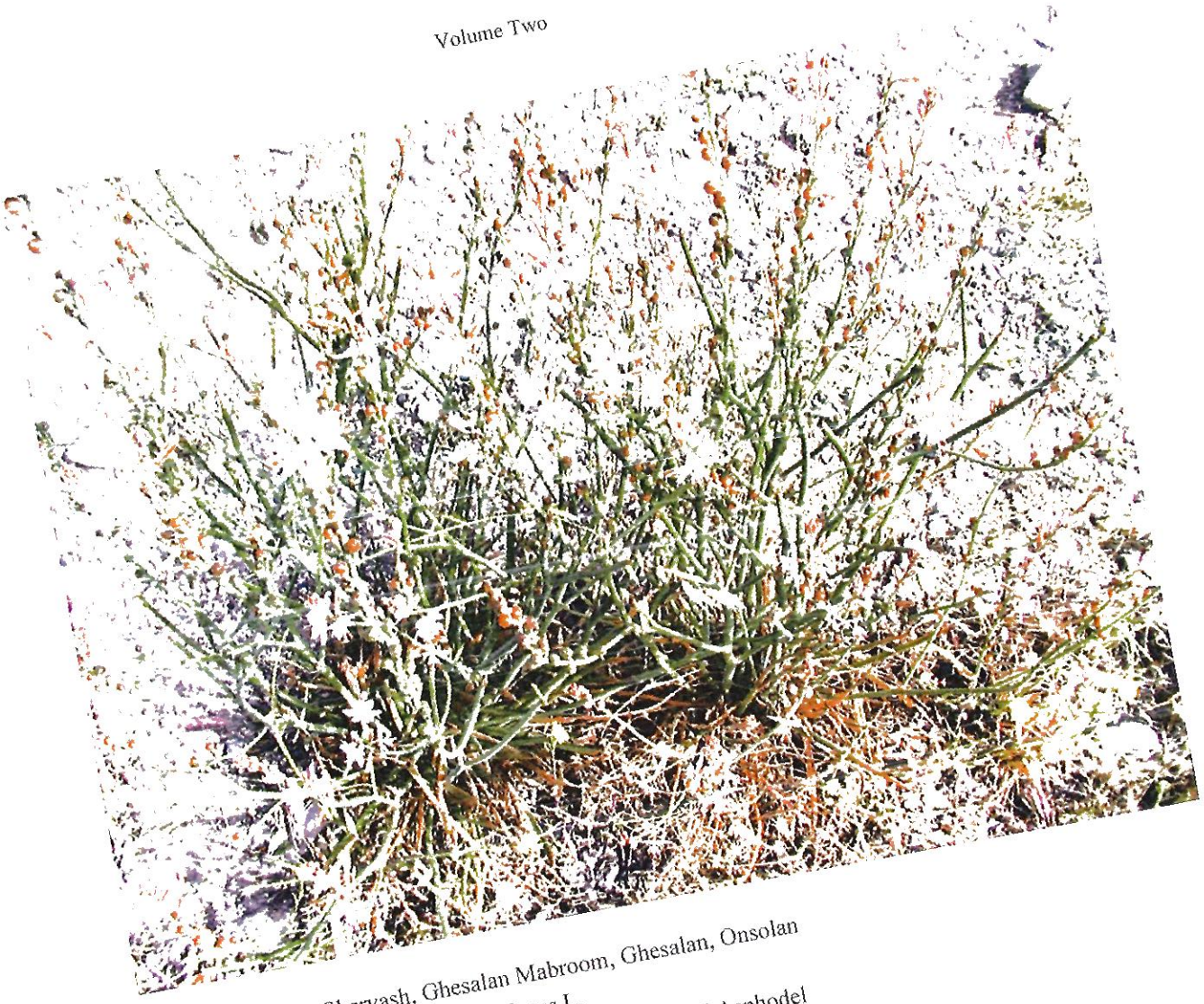


- **Arabic name**: Holion, Ujrum, Shuait
- **Scientific name**: *Asparagus stipularis* Forskal
- **Common name**: Asparagus
- **Family name**: Liliaceae / Alliaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: The whole plant.
- **Chemical constituents**: Asparagine, coniferin, vanillin, triterpene, saponin, resin, triterpenes, and minerals.
- **Pharmacological action**: The plant is a diuretic, and is used for arrhythmia and other heart complaints. It is useful for bronchitis, respiratory infections, rheumatism and headaches. It is formulated in a drug used to produce perspiration and to treat pain caused by venous swelling. A syrup or an extract causes copious dieresis, and is reputed to be very beneficial for repressing undue excitement of the circulatory system, for treating rheumatic and respiratory conditions, for controlling the heart's rhythm, and for being good for anaemia, but it can also cause insomnia. It is rich in calcium, potassium phosphate, iron, manganese and cobalt.
- **Other uses**: A wild flower.
- **Caution**: Shoots may cause irritation to the urinary mucous surfaces with morbid mucorrhoea.

- **Arabic name**: Asperula
- **Scientific name**: *Asperula arvensis* L.
- **Common name**: Field Woodruff, Blue Woodruff
- **Family name**: Rubiaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant and roots.
- **Chemical constituents**: Flavonol glycosides.
- **Pharmacological action**: The plant is a sedative, diuretic, vulnerary and antispasmodic. In herbalism, it is used in the form of an infusion or decoction to treat nervous irritability, overwork, muscular spasms of various kinds, heart palpitations and insomnia. Externally, compresses of woodruff are used to treat slow-healing wounds, skin rashes and ulcerous conditions. The herb is occasionally used in homeopathy. It is an effective moth repellent, diuretic, tonic and anti-diarrhoeal.
- **Other uses**: It is a common weed and is also regarded as a wild flower.
- **Caution**: No reports.

- **Arabic name**: Asperula, Juweissa Ettriya
- **Scientific name**: *Asperula odorataum* L.
- **Common name**: Woodruff, Sweet Woodruff, Wild Baby's Breath, Master of the Woods
- **Family name**: Rubiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Flowering stems, the pre-flowering herb, flowers, leaves, aerial parts and the whole plant.
- **Chemical constituents**: Anthraquinones, glycosides, coumarins, aspiriolside, flavonoids, iridoids and tannins, monotropein, l-ascorbic acid, quinines, anthraquinones and related naphthalenic compounds, asperuloside, tannins, monoterpenes and red pigments.
- **Pharmacological action**: It is antiseptic, antiphlogistic, anti-arthritic, cholagogue, and blood cleansing. The plant is used against arthritis, headaches, sores, cuts, insomnia, hysteria and kidney sand. It is an astringent, anti-bleeding, diuretic, tonic and laxative. Fresh leaves are used for cuts and wounds. A leaves decoction eases digestion, and the tea is used for liver disorders. The plant is effective for varicose veins, sores, and neuralgia. It relieves menstruation ailments and phlebitis. It is diaphoretic, antispasmodic, and calmative. It is thought to act in regulating the heart and liver functions, and is used to improve the taste of medicinal blends.
- **Other uses**: It can be used as a spice and stewing herb, as it has a strong and clean odour. It is also used as a mattress stuffing, in potpourris and to stuff fragrant pillows as it has the scent of sweet hay, and to flavour May wine. It is an attractive ground cover in shady areas.
- **Caution**: In strong doses, the plant may cause vertigo, vomiting and headaches. It is safe only in alcoholic beverages. Coumarin (an active constituent) has caused extensive liver damage, slowed growth, and caused testicular atrophy in test animals.

Asperula spp.



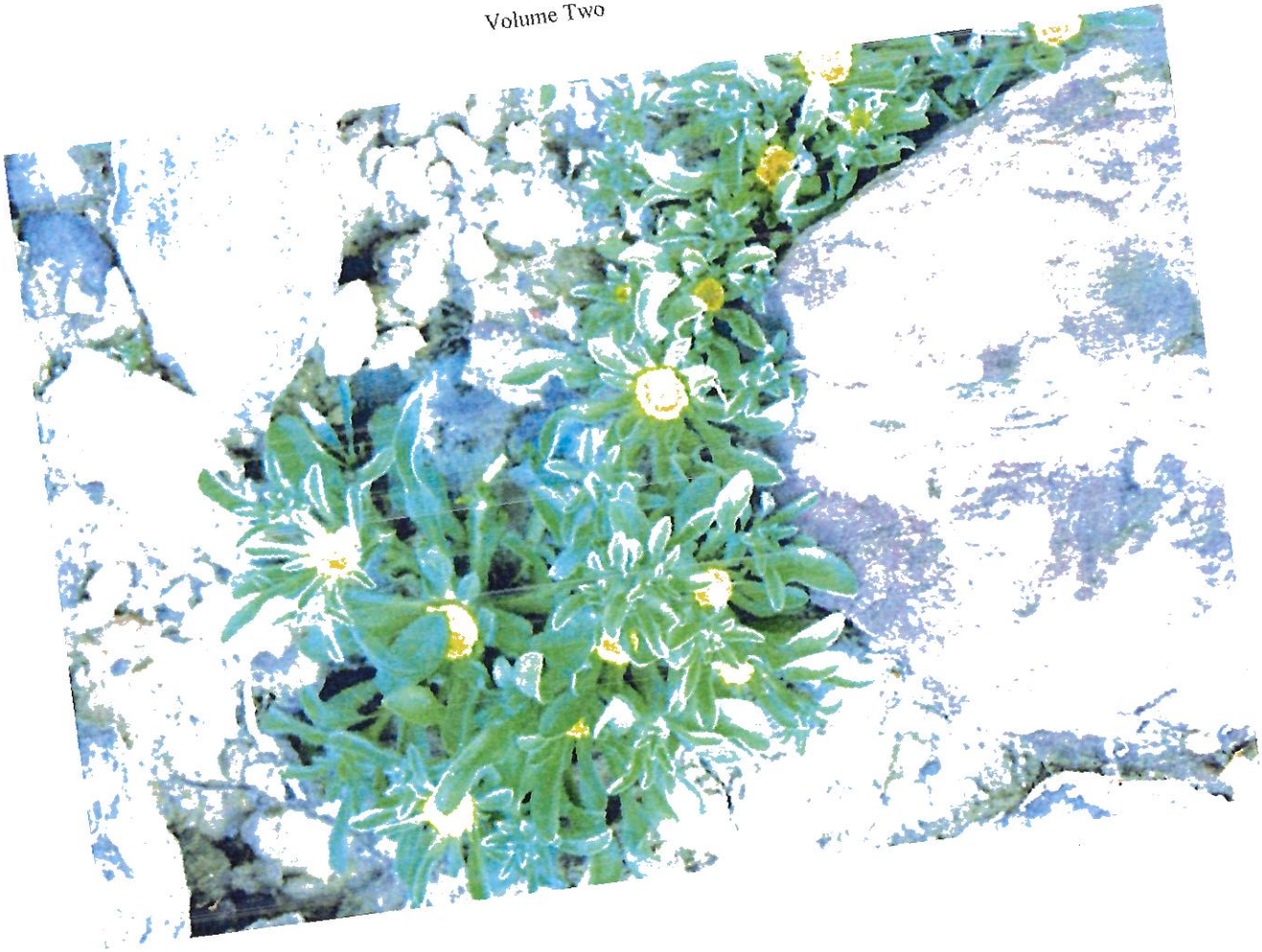
- **Arabic name**: Sheryash, Ghesalan Mabroom, Ghesalan, Onsolan
- **Scientific name**: *Asphodelus fistulosus* L.
- **Common name**: Asphodel, Onionweed, Onion-leaved Asphodel
- **Family name**: Liliaceae / Alliaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Fruits, seeds, and bulbs.
- **Chemical constituents**: Anthraquinones, inulin, mucilage, asphodelin, asphodelin 10'-anthron, aloesaponarin II, aloe-emodin, chrysophanol and desoxyerythrolaccin, chrysoeriol and luteolin. Lacciac acid D and 2□-furoic acid are in the flowering aerial parts; fixed oil contains myristic, palmitic, stearic, oleic, and linoleic acids, and proteins.
- **Pharmacological action**: It is diuretic, laxative, anti-spasmodic, and antibacterial, used for constipation, and cures ulcers and dropsy. Seeds are applied externally for ulcers and inflamed organs. The roots are used to treat dermatitis.
- **Other uses**: Seeds are eaten with yoghurt while the fresh leaves are used as condiments.
- **Caution**: No reports.

- **Arabic name**: Abu-Swayi
- **Scientific name**: *Asphodelus lutea* (L.) Reichenb.
- ***Common name***: Yellow Asphodel
- **Family name**: Liliaceae / Alliaceae or Xanthorrhoeaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Flowers, and bulbs
- ***Chemical constituents***: Anthraquinones, flavonoids, enzene/naphthalenes, and naphthoquinone.
- **Pharmacological action**: The plant is used in aromatherapy.
- **Other uses**: It is a wild flower and a vegetable that may be fried in oil and with meat or vegetables. It is also prepared in omelettes and used as a spice. The roots, leaves and flowers are all edible, and the root may be eaten in the same way as a potato.
- **Caution**: No reports.

A. lutea spread in the field

Asphodelus sp.

- **Arabic name**: Brooq, Sriash
- **Scientific name**: *Asphodelus microcarpus* Salzm et Viv.
- **Common name**: Common Asphodel
- **Family name**: Liliaceae / Alliaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Rhizomes, roots (bulbs), and seeds.
- **Chemical constituents**: Anthraquinones, proteins, amino acids, oil, resin, asphodilin, microcarbin, aloamodin, and colchicin.
- **Pharmacological action**: The anthraquinones and another three components can be separated, two of which possess a spasmolytic effect while the third possesses spasmogenic effects. The plant is effective against ectoderm parasites and psoriasis, and treats dry skin on feet, eczema, furuncles, rashes, boils and warts. The plant is also used for stomach ulcers, burns and jaundice. It is a remedy for wounds and haemorrhoids and is included in cosmetic preparations, antitussives and cathartics.
  In folk medicine, the root is used to treat hard warts that grow in between the knuckles of hands and feet, is a remedy for warts, jaundice, eczema, swollen feet, and cracked skin, and relieves gas in the stomach. The root's juice is a powerful method for treating eczema, ruptured skin and ringworm.
- **Other uses**: A root tea is prepared and sweetened with honey or sugar. The tuberous root is edible. The plant is a wild flower.
- **Caution**: It is a poisonous plant.



- **Arabic name**: Rabad
- **Scientific name**: *Asteriscus graveolens* (Forssk) Less
- **Common name**: Fragrant Oxeye, Stinkwort
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole plant.
- **Chemical constituents**: Volatile oils, phenols, mineral elements including magnesium, calcium, chrome, manganese, iron, cobalt and copper.
- **Pharmacological action**: The plant is used against barrenness.
- **Other uses**: It is a wild flower and an antifungal agent against *Fusarium oxysporum f. sp. Albedini*.
- **Caution**: No reports.

- **Arabic name**: Nqood
- **Scientific name**: *Asteriscus pygmaeus* (DC.) Coss and Dur.
- **Common name**: Jericho Oxeye
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Aerial parts and flowers.
- **Chemical constituents**: Flavonoids, phenolics, farnesol and thymol.
- **Pharmacological action**: It is used against barrenness, and is also an emmenagogue and antioxidant.
- **Other uses**: A wild flower.
- **Caution**: No reports.

- **Arabic name**: Fargaoon
- **Scientific name**: *Astoma seselifolium* DC.
- **Common name**: Astoma
- **Family name**: Umbelliferae / Apiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Tubers and the whole plant.
- **Chemical constituents**: Oil, sabinene, 4-terpineol, □-terpinene, □-pinene, germacrene D, □-myrcene.
- **Pharmacological action**: It prevents cancer, especially breast cancer, and the bulb's powder is a tonic and a general stimulant.
- **Other uses**: Tubers are edible fresh. The plant is a common weed and a wild flower.
- **Caution**: No reports.

Astoma in a wheat field

- **Arabic name**: Semgh Al-Kuthaira'a, Kuthaira'a, Firash Al-Arayes, Al-Qatad Al-Halabi
- **Scientific name**: *Astragalus aleppicus* Boiss.
- **Common name**: Tragacanth, Aleppo-Milk Vetch
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Bud resin, bark, and gum.
- **Chemical constituents**: Gum materials, starch, and adaptogen.
- **Pharmacological action**: An adaptogen may provide energy and stamina, boost the immune system, detoxify various drugs and metals, act as an antiviral, improve peripheral circulation, counteract stress, and improve mental functioning. It is a potent anticancer agent and may be useful for flu, respiratory infections, colds, high cholesterol levels, chronic lung weakness, HIV, tumours and pharyngopathy. It may interact with medications that suppress the immune system, such as cyclophosphamide. It may also affect blood sugar levels and pressure.
- **Other uses**: A forage species.
- **Caution**: The intake of considerable amounts of the plant leads to toxication in animals; its symptoms include breathing difficulty, staggering gait during locomotion, which can develop into malformed foetuses, loss of hair, irregular growth of unguis, anorexia, weakness in reproduction and blindness. Some *Astragalus* species can be toxic.

Flowering plant

- **Arabic name**: Qaffa'a, Qatad Shawki
- **Scientific name**: *Astragalus echinus* DC.
- **Common name**: Astragalus
- **Family name:** Leguminosae / Fabaceae
- **Growth habit**: Herb
- **Life cycle**: Annual or Perennial
- **Part/s used**: Buds, bark, and gum.
- **Chemical constituents**: Gum tragacanth, gum materials, and starch.
- **Pharmacological action**: It has inotropic, spasmolytic, astringent, emetic, antispasmodic, antihistaminic, anti-serotonin, cardiac, tonic and pharyngopathic properties. It is an emollient and emulsifier. The infusion is an excellent body energizer. It is useful in cold climates for keeping the body warm and is used by athletes to stay energetic, and it is also used against pharyngopathy. The gum is used for inflamed membranes, and is carminative, laxative and galactagogue. A root decoction is used for diabetes and jaundice.
- **Other uses**: It is a forage species. It has been used by athletes to boost energy reserves, especially in the arms and legs. Its gum is an adhesive agent.
- **Caution**: Eating considerable amounts of the plant causes toxication in animals. Its symptoms include dyspnoea, staggering gait during locomotion, which can develop into malformed foetuses, loss of hairs, irregular growth of unguis, anorexia, weakness in reproduction and blindness.

Al-Karak Castle

- **Arabic name**: Shalah, Qafa'a, Iklil Al-Malik
- **Scientific name**: *Astragalus hamosus* L.
- **Common name**: Milk Vetch, European Milkvetch
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Shrub
- **Life cycle**: Annual
- **Part/s used**: Pods, bark, and gum.
- **Chemical constituents**: Gum, starch, triterpene saponins, flavones glycosides, selenium and adaptogen.
- **Pharmacological action**: The plant is used against alopecia, and is emetic and carminative. Its gum is used for inflamed membranes, and is a laxative and galactagogue. It may interact with some medications that suppress the immune system such as cyclophosphamide, and may affect blood sugar levels and blood pressure. Adaptogen may provide energy and stamina, boost the immune system, detoxify various drugs and metals, have antiviral properties, improve peripheral circulation, balance bodily systems, counteract stress, and improve mental functioning. It may be a potent anticancer agent, useful in fighting off the flu, respiratory infections, colds, high cholesterol levels, chronic lung weakness, HIV, cancer, and tumours. The plant is a demulcent, emollient, galactagogue and laxative. It is useful in treating irritation of the mucus membranes, nervous affections and catarrh.
  The pods are used as a suppurative and astringent, and as a plaster for reducing tumourous and painful swellings.
  The plant is used for hypertension, acute and chronic nephritis, and stomach and duodenal ulcers; its anti-inflammatory, immunostimulant, and spermicidal activities, interferon release and the regulation of cholesterol metabolism are mainly due to the triterpene saponins.
- **Other uses**: Small pods are cooked and used in salads, and have a mediocre taste, but look very much like certain worms and so are used mainly for their novelty value. The plant can fix nitrogen.
- **Caution**: Eating considerable amounts of the plant may cause toxicity in animals. Symptoms include dyspnoea, staggering gait during locomotion, which can lead to malformed foetuses, anorexia, weakness in reproduction (infertility) and blindness. Some species contain a nerve toxin called swainsonine.

- **Arabic name**: Qrain, Um Bwaida, Aspergola, Karawy
- **Scientific name**: *Astragalus oocephalus* Boiss
- **Common name**: Astragalus
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Bud resin, bark, and gum.
- **Chemical constituents**: Gum and selenium.
- **Pharmacological action**: The gum is used as an adhesive material, and treats inflamed membranes.
- **Other uses**: A forage species.
- **Caution**: The intake of considerable amounts of the plant may cause toxicity in animals. Symptoms include dyspnoea, staggering gait during locomotion, which may result in malformed foetuses, anorexia, weakness in reproduction and blindness. Some species contain a nerve toxin called swainsonine.

- **Arabic name**: Khunsur Al-Aroos
- **Scientific name**: *Astragalus sieberi* DC.
- **Common name**: Sieber's Milk Vetch
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Aerial parts, and shoots.
- **Chemical constituents**: Saponins, triterpene glycosides, ethyl acetate and n-butanol, triterpene and kaempferol glycosides, cycloartane triterpene glycosides, cycloastragenol-3-O-glucoside, flavonoids, naphthalene acetic acid (NAA) and benzyl adenine (BA).
- **Pharmacological action**: The plant shows antiperspirant and antihypertensive properties. It is used in conjunction with chemotherapy to treat cancer patients. The production of chemical constituents is related to the growth regulators used and their concentrations.
- **Other uses**: A forage species and wild flower.
- **Caution**: No reports.

Flowering stage

- **Arabic name**: Qaffa'a, Kadad
- **Scientific name**: *Astragalus spinosus* (Forssk.) Muschl
- **Common name**: Milk Vetch, Spiny Milk Vetch, Bladder Vetch
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Buds, bark, and gum.
- **Chemical constituents**: Glycoside, alkaloid, starch, and gums.
- **Pharmacological action**: Glycoside possesses positive intoropic properties; it is used in the treatment of renal colic and bronchial asthma. The main action of the glycoside and the alcoholic extract of the shoots is as a direct cardiac stimulant. It has an antispasmodic effect. The plant is astringent, emetic and carminative. Gum is used for membrane inflammation, asthma, and kidney colic, and the branch's alcoholic extract is a cardiac tonic. The plant is a galactagogue and laxative and the glycosides have a positive effect on the heart.
- **Other uses**: A forage plant and wild flower.
- **Caution**: Some *Astragalus* species can be toxic. The intake of considerable amounts of the plant leads to toxication in animals; symptoms include breathing difficulty, locomotion difficulty, a staggering gait, which can develop into malformed foetuses, loss of hair, irregular growth of unguis, anorexia, weakness in reproduction and blindness. Some *Astragalus* species can be toxic.

Other species of *Astragalus*

Astragalus kahiricus

Astragalus macrocarpus

Astragalus cretaceus Boiss. Et Ky

Astragalus trimestris

Astragalus bethlehemiticus

Astragalus sp.

Astragalus hispidulus DC

Astragalus cruciatus Link

Astragalus sp.

Astragalus sp.

- **Arabic name**: Jalwah, Shweikh
- **Scientific name**: *Atractylis gummifera* L.
- **Common name**: Chameleon Flower, Distaff Thistle
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Fruits
- **Chemical constituents**: Diterpenoid glucosides, carboxyatractyloside, atractyloside. Roots contain diterpene glycosides, carboxyatractyloside and wedeloside.
- **Pharmacological action**: The plant is abortifacient, emetic and a remedy for labour pains, skin diseases, abscesses and furuncles.
- **Other uses**: It is a wild flower.
- **Caution**: The plant is toxic, inhibiting mitochondrial oxidative phosphorylation. It is a poisonous plant, and the juice of the rhizome is also poisonous. It provokes frequent poisoning, especially in children. The plants' poisonous compounds interact with detoxication and/or transformation systems in the liver, even at doses not likely to induce cytolysis, by blocking ADP-ATP conversion through the inhibition of the P450 cytochrome. It causes nausea, vomiting, stomach aches, and unconsciousness. The main effect is on embryonic mitochondria tissues. Glycosides cause severe hepatitis and fatal common liver failure. Clinical manifestations are related to induced hypoglycaemia and neurovegetative disorders or subsequent renal and kidney failure. Liver transplantation or immunotherapy may improve the often fatal prognosis.
  The ingestion of these plants, especially in large amounts, is expected to have effects on major body organs such as the liver, heart and kidneys. The plant is known to cause problems in animals. Hepatotoxicity is mainly due to toxic chemicals in the roots.

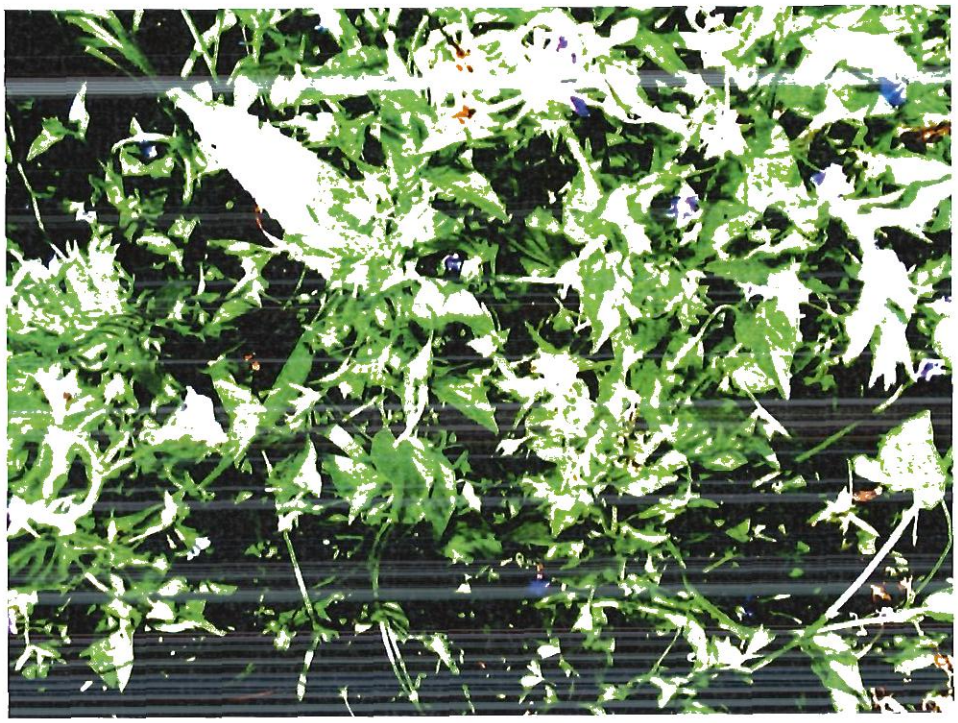
- **Arabic name**: Qattaf Melhi, Rughol
- **Scientific name**: *Atriplex halimus* L.
- **Common name**: Tall Orache, Silver Orache, Mediterranean Saltbush, Sea Orache, Shrubby Orache
- **Family name**: Chenopodiaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennials
- **Part/s used**: The whole plant and seeds.
- **Chemical constituents**: Protein, vitamins A, C, and D, minerals such as chromium, salt, oxalic acid, fibre, crude protein and carbohydrate.
- **Pharmacological action**: It is hypoglycaemic and/or hypolipidemic, emetic, antioxidant and antiphlogistic. Seeds are vomit-inducing. The plant is used for heart disorders and diabetes. The effect may be partly due to the chromium content that improves blood sugar control.
- **Other uses**: The plant has an insecticidal activity; it causes considerable toxicity to *Culex larvae*, and a strong aphicidal activity against *Aphis gossypii*. Plant ash is used for soap production while shepherds sometimes eat the leaves in salads. The plant is a common forage species.
- **Caution**: No reports.

- **Arabic name**: Qattaf, Rughol
- **Scientific name**: *Atriplex leucuclada* L.
- **Common name**: Orache
- **Family name**: Chenopodiaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: The whole plant and seeds.
- **Chemical constituents**: Saponins, alkaloids, vitamin A, proteins, flavonoids, terpenoids and amino acids.
- **Pharmacological action**: The plant has molluscicidal activity and is antiphlogistic. The seeds are vomit-inducing.
- **Other uses**: It is used as a hedge, border and soil binder. It is also a common forage species.
- **Caution**: No reports.

Plant at mature stage (seeding)

Fruit

- **Arabic name**: Set Al-Hussun
- **Scientific name**: *Atropa belladonna* L.
- **Common name**: Deadly Nightshade, Belladonna
- **Family name**: Solanaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves, roots, stem, flowering heads, and fruits.
- **Chemical constituents**: Alkaloids, hyoscyamine, hyosyne, atropine, scopolamine, volatile materials such as pyridine, methyl pyrroline and diamine, tannins, amidan, starch, atropine, belladonine, atropic acid, nicotine, kaolin and pectin.
- **Pharmacological action**: The berries' juice dilates the pupils of the eyes, and is antispasmodic, sedative, analgesic, an antidote to various poisons and a surgical anaesthetic. Berries are used for asthma and cardiac diseases, as an anodyne, muscle relaxant, and antiphlogistic, and to treat menstrual problems, peptic ulcer disease, histaminic reactions and motion sickness.
  The alkaloids are used in various functional gastrointestinal disorders. The combination of belladonna and opium is useful for diarrhoea and some forms of visceral pain. Scopolamine is used for motion sickness, to potentiate the analgesic and anxiolytic effects of opioid analgesics, and as a painkiller in childbirth. Atropine sulphate is used as a mydriatic and cycloplegic for eye examinations, as an antidote to certain pesticide poisoning, and in cases of nerve gas attack.
  The plant is used in medical powders for respiratory and nervous systems, spasmodic diseases and ulcers and as a poultice for snake bites and insect stings. It is a narcotic used in surgeries, an anti-emetic drug for pregnant women, and reduces salivation and perspiration. It also sedates asthma and whooping cough ailments.
- **Other uses**: It is a wild flower plant.
- **Caution**: Most, if not all, parts of the plant are extremely poisonous and should only be used by trained persons. Two to three berries can kill a child. The plant is highly dangerous and should not be collected and used for self-medication. The juice of the berries is used by women to dilate the pupils of the eyes, but this practice is extremely dangerous since the juice can cause glaucoma. Fruits cause the mouth to dry, stop saliva, sweat, milk and mucus production, cause high body temperature, cloudy eye, dilated pupils, dyspnoea and a high heartbeat, which may lead to death. Fruits also cause facial redness, rapid pulses, difficulty breathing, difficulty seeing, and hysteria, and lead to paralysis of the nerve system.



- **Arabic name**: Shoofan Barri
- **Scientific name**: *Avena sterilis* L.
- **Common name**: Wild Oat
- **Family name**: Gramineae / Poaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Seeds
- **Chemical constituents**: Crude fibre, dry matter, neutral detergent fibre, and acid detergent fibre percentages (67.6%) are higher than shrubs and forbs. *A. sterilis* showed the highest content of carbon (5.9%) and fat (99.3%), and the lowest content of crude protein (5.5%) during summer. It contains phytosterols, silicic acid, saponins, zinc and avenin.
- **Pharmacological action**: It is used for mild depression, insomnia caused by over-fatigue, lethargy and convalescence from debilitating conditions. It relaxes the nervous system, and is used for abscesses, cholesterol in blood vessels, freckles, gout, cough, eczema, liver and lung diseases, as a haemolytic, for complaints of the stomach, gastric catarrh, spleenopathy, as a nerve tonic, for arthritis, in a light diet in case of stomach problems, gravels, and laryngitis, and is refreshing and a gentle diuretic.
  In folk medicine, a decoction of the flowering plant is used as a diuretic, and for arthritis and skin diseases.
- **Other uses**: A forage and weed species.
- **Caution**: No reports.

Wildoat in the field

Fruiting branch

- **Arabic name**: Balah Al-Sahra, Zaqoom, Ihlelage, Tamr Al-Abeid
- **Scientific name**: *Balanites aegyptiaca* (L.) Del.
- **Common name**: False Balsam, Desert Date, Thorn Tree
- **Family name**: Balanitaceae
- **Growth habit**: Spiny shrub or tree
- **Life cycle**: Perennial
- **Part/s used**: Roots, park, leaves, seeds, and fruits.
- **Chemical constituents**: Mucilage, lipids, fatty acids, carbohydrates, alkaloid triglycerides, saponin, organic acid, corticosteroids and steroidal sapogenins. The seeds contain 30-40% oil, and the sapogenins diosgenin and yamogenin. Diosgenin can be used to produce hormones such as those in combined oral contraceptive pills and corticoids. The bark contains gum and saponin. Oil, saponins, steroids compounds such as sapogenins, netognin, protein and sugar are in the roots. In addition, vitamins (especially vitamin A), mineral elements, flavonoids, namely quercetin 3-glucoside, quercetin-3-rutinoside; 3-glucoside, 3-rutinoside, 3-7-diglucoside and 3-rhamnogalactoside of isorhamnetin, furanocoumarin, mucilage, fatty acids including palmitic, citric, oleic and linoleic, steroidal glycosides, steroidal saponins and triglycerides are present in the plant. Fruits contain oil, proteins, sugars, vitamins, and mineral elements; when fermented, its contents from saponin steroids increased, and when decomposed it liberates diosgenin.
- **Pharmacological action**: It is antiseptic, antiphlogistic, anthelmintic, anti-nociceptive, purgative, and antioxidant, and cures burns, arthritis, colic, coughs, herpes, hypertension, malaria, rheumatism and syphilis. The plant has a pesticidal function. Fruits cure kidney diseases, are used to make sweets and have a bitter taste when raw. The fruits' pulp is used to treat tuberculosis, neuralgia, local paralysis, dizziness, wounds, aching joints, varicose veins, head calabash (alopecia), bleeding, ear and cystitis, anus inflammation, haemorrhoids, leucoderma, metrorrhagia, leucorrhoea, dysentery, leprosy, palpitations, constipation, gout and spleen ache. It is a tonic, laxative and digestive, and works as a localized rub to prevent mosquito stings. It strengthens sensing and the brain, and overcomes edema, strangury, fever, thirst, headaches, jaundice, and liver and kidney weakness. It is useful for colon and stomach constriction. The plant is used as a source of steroidal drugs, anti-conception materials and sex hormones. Bark and fruit mesophyll aqueous extracts are used in AIDS, leukaemia and diabetes treatments. It is a precursor of steroids. An aqueous extract of fruit

mesocarp exhibits a prominent anti-diabetic effect. Leaves and bark are both used to clean wounds and cure skin diseases. Seed powder expels phlegm.

In folk medicine, *Balanites aegyptiaca* is traditionally used in the treatment of jaundice, intestinal worm infections, wounds, malaria, syphilis, epilepsy, dysentery, constipation, diarrhoea, haemorrhoids, stomach aches, asthma, and fever. The fruit is mixed into porridge and eaten by nursing mothers, and the oil is consumed for headaches and to improve lactation. Bark and fruit extracts repel snails and copepods, organisms that host the schistosome and guinea worm parasites, respectively. Fruit mesocarp is a febrifuge, bark extract is anthelmintic, the bark is used against lues and chancre, its fumigation is a liver remedy, and fruit is used for colds. The bark yields a washing liquid containing saponin.

- **Other uses**: The seeds' oil is used in cooking and in soap production. Many parts of the plant are used as famine foods in Africa and other parts of the world. The leaves are eaten raw or cooked as a vegetable, and the yellow fruit is of a sweet bitter taste and can be eaten. It can be made into a nice sweet after the removal of the bitter materials. It contains fatty oil. In addition, the fruit is used for fish poisoning. The pericarp is powdered and cooked. The oily seed is boiled to make it less bitter and is eaten mixed with sorghum. The seed contains 30-40% oil, and the sapogenins diosgenin and yamogenin. Diosgenin can be used to produce hormones such as those in combined oral contraceptive pills and corticoids. The flowers can also be eaten.

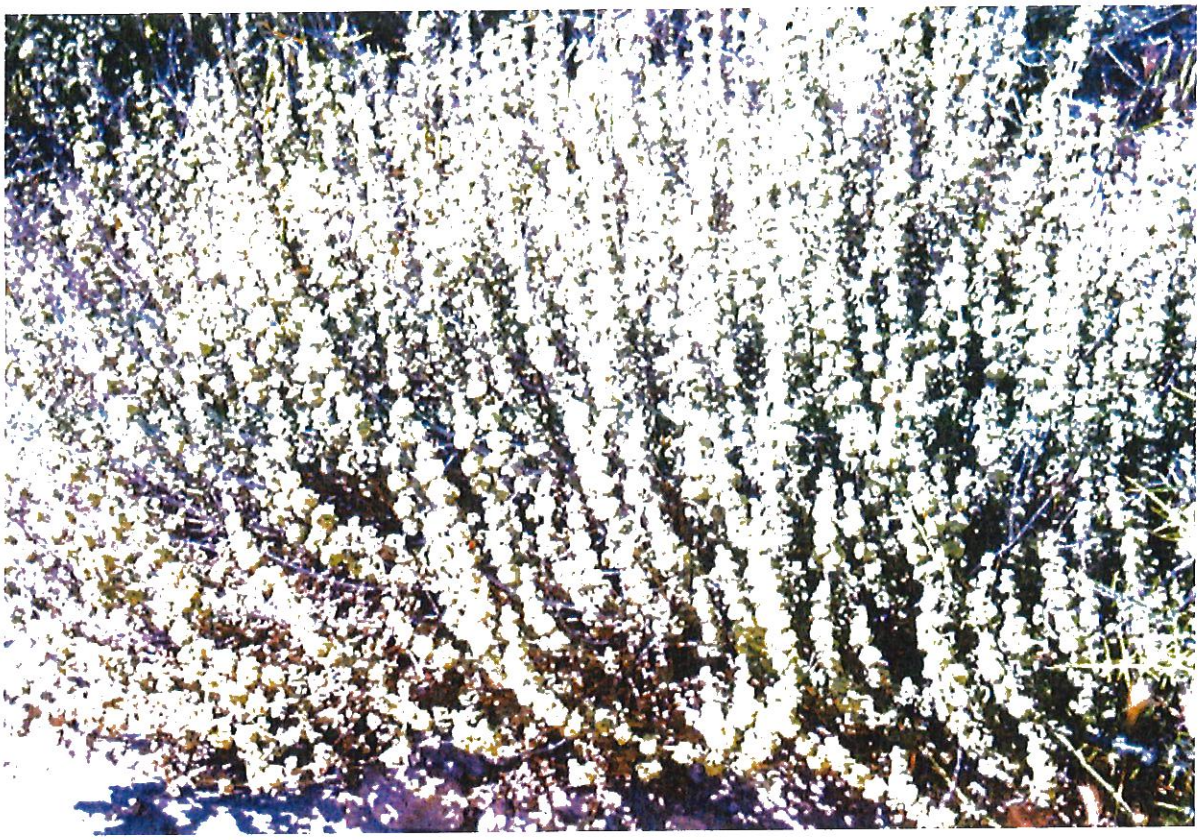
  The tree is considered to be valuable in arid regions because it produces fruits even in dry periods. It can be fermented for alcoholic beverages.

  The seed cake after oil extraction is commonly used as animal fodder. Seeds of *Balanites aegyptiaca* have a molluscicide effect on *Biomphalaria pfeifferi*. The wood is heavy and smooth to the touch; it is used for agricultural tools, furniture and coal. The fatty fruit oil is used in the perfume industry.
- **Caution**: A sterol-like substance isolated from the plant is extremely toxic for aquatic animals.

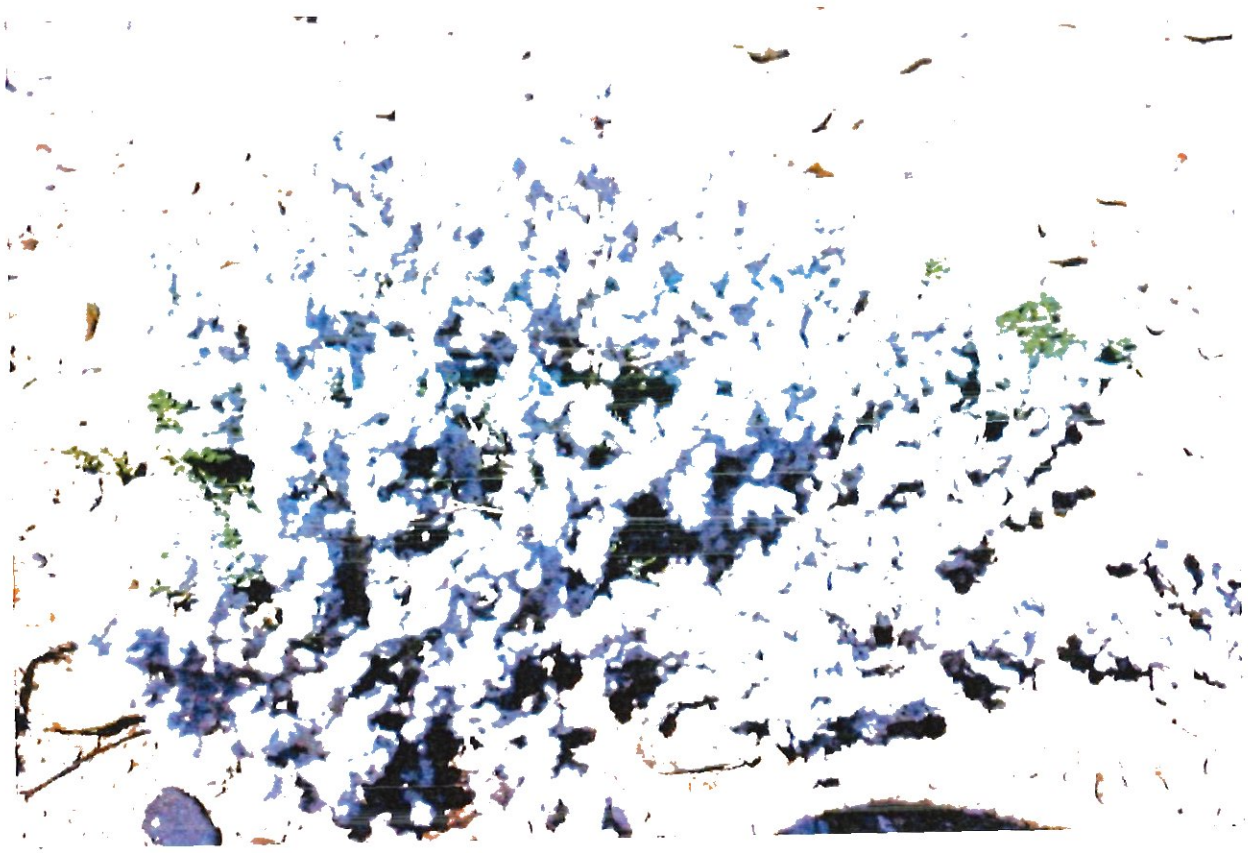
The plant in its natural habitat

Flowering branch

Fruiting plant



- **Arabic name**: Ballota, Farasion Aswad, Ktailah
- **Scientific name**: *Ballota nigra* Roth
- **Common name**: Black Horehound
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Tops of flowering stems, macerated leaves, and aerial parts.
- **Chemical constituents**: Diterpenoids like marrubiin (6.5%), ballonigrin, ballotinone, ballotenol and 7-acetoxymarrubiin. It also contains phenylpropanoids, fixed oil, flavonoids, polyphenols, diterpene, phenylpropanoid glycosides, hydroxycinnamic acids, tannin, saponin, phytosterol, choline, lactone and mineral elements.
- **Pharmacological action**: It is a cholagogue, and the plants' formulations are used for eye and ear disorders and rheumatic pain, and are appetizers, sedative, diaphoretic, neurosedative, antioxidant, antibacterial, anxiolytic, astringent, and antidepressant. The plant is a tranquillizer, cardiotonic, and useful for ear nerve inflammation, insomnia, menopausal syndrome and nerve tension. The leaves are used as a trophic protective, antiemetic, a mild astringent, antispasmodic, and restorative; they are also aromatic and anti-nausea, and are used against vomiting, motion sickness and dyspepsia. This plant is believed to be an effective expectorant, vermifuge, a menstrual normalizer and a remedy for gout and arthritis. Its compounds can be used to prevent nervous system disorders and asthenic conditions. The aerial parts' decoction is anti-spasmodic and anthelmintic. A plant infusion was used in the past for epilepsy, ear and nose disorders and as a deodorant.
- **Other uses**: A wild flower.
- **Caution**: Animals avoid the plant.



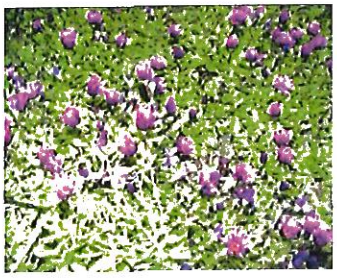
- **Arabic name**: Qttanah, Om Sofah, Om Malhas, Om Al-Qutain
- **Scientific name**: *Bassia eriophora* (Schard) Ascherson
- **Common name**: Wolly Saltwort
- **Family name**: Chenopodiaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Aerial parts.
- **Chemical constituents**: Saponins, triterpenoids, tannins, flavonoids, terpenes, steroids, alkaloids, carbohydrates, glycosides, phytosterols, resins, phenols, proteins, amino acids and diterpenoids.
- **Pharmacological action**: The jelly contains a plant extract used for wound healing. Many species of this genus have antimicrobial and anti-rheumatic activities. In folk medicine, the plant is used in the treatment of urinary system diseases and rheumatism.
- **Other uses**: A wild flower.
- **Caution**: No reports.

Plant population in its natural habitat

- **Arabic name**: Bsail Wadi Al-Ordon
- **Scientific name**: *Bellevalia eigii* Feinbr.
- **Common name**: Egg Bellevalia
- **Family name**: Liliaceae / Alliaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Bulb
- **Chemical constituents**: Homoisoflavonoids, 7-*O*-methyl-3′-hydroxy-3,9-dihydropunctatin, hydroxy-7-*O*-methyl-3,9-dihydropunctatin, 7,4′-di-*O*-methyl-3′-hydroxy-3,9-dihydropunctatin, methylpunctatin, 5-hydroxy-7,8-dimethoxychroman-4-one, 7-*O*-methyl-8-demethoxy-3-hydroxy-3,9-dihydropunctatin, methyl-3′-hydroxypunctatin, and ferulic acid-derived acrylamide.
- **Pharmacological action**: Some compounds are effective in poisoning cells of the cancer types MDA-MB-435 (melanoma) and HT-29 (colon). Some of these compounds have antibacterial and antifungal effects and others are effective against *Mycobacterium smegmatis* and *Mycobacterium avium* subsp. *hominissuis*, the causal agents of the most important pulmonary disease.
- **Other uses**: A wild flower.
- **Caution**: No reports.

Bellevelia eigii at fruiting stage

Bellevelia longipes



- **Arabic name**: Bellis, Shash Al-Qadi, Zahr Al-Loilui, Loiluia Sughra
- **Scientific name**: *Bellis sylvestris* (L.) Cyr.
- **Common name**: Southern Daisy, Common Daisy, Wood Daisy, Wild Daisy
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Fresh or dried flowering heads.
- **Chemical constituents**: Saponins including 3-*O*-β-D-glucopyranosyl-2β,3β, 23-trihydroxyolean-12-en-28-oic acid, 28-*O*-β-D-glucopyranosyl(1→3)-[α-L-rhamnopyranosyl(1→2)]-β-D-glucopyranoside and 3-*O*-β-D-glucopyranosyl-2β,3β,16α,23-tetrahydroxyolean-12-en-28-oic acid 28-*O*-α-L-rhamnopyranosyl(1→3)-β-D-xylopyranosyl(1→4)-α-L-rhamnopyranosyl(1→2)-[(*E*)-2-butenoic acid(1→3)]-β-D-fucopyranoside, tannin, essential oil, and flavones.
- **Pharmacological action**: It is anti-cancer, anti-spasmodic and anti-tussive. It is traditionally used for wounds and is useful for delicate and listless children. The plant is a mild anodyne, antispasmodic, demulcent, digestive, emollient, expectorant, laxative, ophthalmic, purgative and tonic. A flower infusion is used for catarrh, rheumatism, arthritis, liver and kidney disorders, and as a blood purifier. A plant ointment is used for wounds, gout and fevers. A root decoction is recommended for scorbutic complaints and eczema. A mild decoction may ease respiratory tract and rheumatic pains and painful and heavy menstruation.
- **Other uses**: An insect repellent spray can be made from an infusion of the leaves. It is also an ornamental plant.
- **Caution**: No reports.

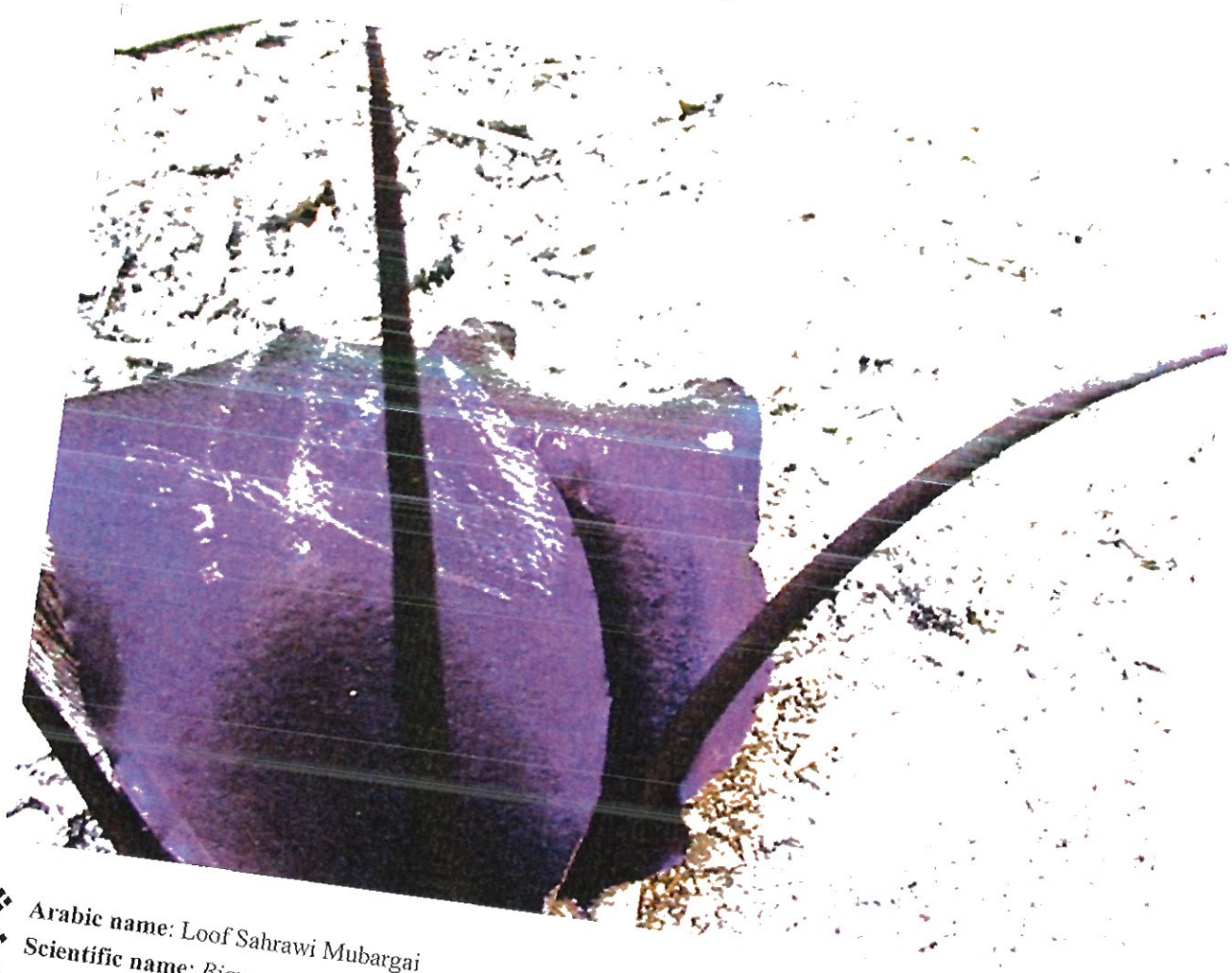
- **Arabic name**: Uood Reeh Magribi, Berberis, Barbery
- **Scientific name**: *Berberis vulgeris* L.
- **Common name**: Barberry
- **Family name**: Berberidaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used:** Root, stem, bark, small twigs, flowers, leaves, and fruits.
- **Chemical constituents**: The alkaloids berberine, bermanin, isocobinoline, magnoflorine and jatrorrhizine along with small quantities of palmatine and alkaloid BV 1. Oxyacanthine isocorydine is the main alkaloid in leaves; ascorbic acid also exists in fruits. Resin, tannin, organic acids including tartaric, citric, maleic, ascorbic, dextrose, fruit sugar, pectose, gum and pectin.
- **Pharmacological action**: The plant is antiseptic, antiphlogistic, anti-diarrhoeal, digestive, tonic, astringent, laxative, expectorant, stomachic, cholagogue, antiemetic, hypotensive and diuretic. It is used for disorders, dysentery, haemorrhoids, heart disease, internal wounds and intestinal colic. It is toxic to *leishmania donovani*. The roots' paste is a remedy for swellings, sore eyes, bone fractures, wounds and a curative for piles. The roots' extract is used for ophthalmia, the leaves for jaundice, a fruit and leaves decoction for diabetes and dizziness, bark for internal wounds, throat and mouth pains, and the roots for cancer. The plant is also used for gall stones, bladder pains, and nephritis, is anti-pyretic, digestive, cures metrorrhagia after birth, reduces cholesterol blood levels and stops the consequences of cholera. A fruit and root decoction is used for fevers, and the plant is a stomach, cardiac and liver tonic.
- **Other uses**: It is a wild flower and an ornamental plant. It is used as a source for flavouring that restricts the content of berberine in foods (EU law on flavourings). The fruit is specified as a food but it has been remarked that it is rarely used.
- **Caution**: All plant parts are poisonous except the berries. The berberine and plant bark are toxic and should only be used under full medical supervision. Ingestion may cause some minor symptoms such as gases, flatulence, rashes, muscle aches, vomiting or diarrhoea; the ingestion of small amounts may not cause any symptoms. Exposure to the juice or sap from plants or a puncture wound from the thorns may produce a skin rash or irritation. Skin wounds from some of these plants can be extremely painful, causing large blisters and burning of the skin. The bark, root bark, and roots contain the toxic isoquinoline alkaloids and berberine. The plant must be avoided by pregnant women.

Flowering plant

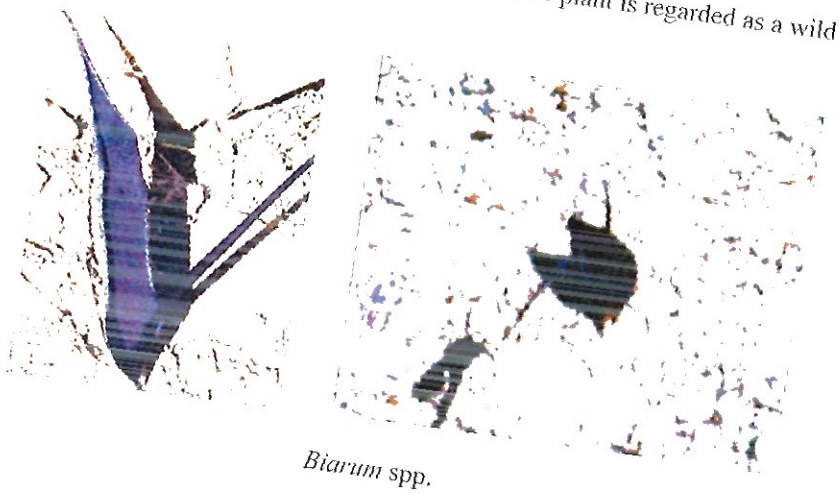
- **Arabic name**: Siliq, Salaq, Lifit, Ders El-Kalb
- **Scientific name**: *Beta vulgaris* L. subsp. *maritima* (L.) Acrang.
- **Common name**: Garden Beet, Wild Chard, Beet
- **Family name**: Chenopodiaceae
- **Growth habit**: Herb
- **Life cycle**: Annual or Biennial
- **Part/s used**: Roots, leaves before flowering, and seeds.
- **Chemical constituents**: Proteins, vitamins A, C, K, niacin, riboflavin and ascorbic acid, laxative materials, oxalic acid, sugar, starch, gum, mineral elements including potassium, calcium, magnesium and iron. It also contains nitrate, saponin, and oxalate in the roots.
- **Pharmacological action**: The plant is used for dandruff, skin disorders, combating acidosis and is useful in the treatment of anaemia. The plant's juice is beneficial for jaundice, hepatitis, nausea, vomiting due to biliousness, diarrhoea and dysentery. Its mixture with honey helps the healing of gastric ulcers and when mixed with lime is valuable for jaundice. Its juice is important in the treatment of hypertension, arteriosclerosis, heart trouble and varicose veins. It cleans the kidneys and gallbladder. Boiled plant extract is excellent for boils, dermatitis and outbreaks of pimples and pustules. The decoction with a little vinegar can be used externally to clean scurf or dandruff from the head.
  As an ointment, the plant cures haemorrhoids, painful and purulent wounds, skin ruptures, furuncles' maturation and reduces its ailments, and sedates colon pains, prevents stomach gases, is a diuretic and nerve excitant, provides iron to the body, and overcomes general convulsions. It is used for liver and spleen problems, headaches, and as a sedative and analeptic.
  In folk medicine, beet roots and leaves have been used to treat a wide variety of ailments including fevers and constipation, and the leaves are also used to bind wounds. The root juice is an aphrodisiac and root with garlic nullifies the effects of garlic-breath. The betanin pigment molecule in the root of red beets may protect against oxidative stress. A beet powder-fixing bandage is used for treating purulent wounds.
- **Other uses**: Betaxanthin-containing plants are potential sources for natural food colours. The leaves are eaten as a green leafy vegetable.
- **Caution**: Beet greens and Swiss chard are both considered as high oxalate foods implicated in the formation of kidney stones. Eating high quantities of the plant may cause toxicity because the high nitrate, saponins and

oxalate content in the roots leads to toxicity symptoms in animals such as diarrhoea, general weakness, breathing difficulties, staggering, recumbency and death. Oxalates cause the formation of kidney stones.

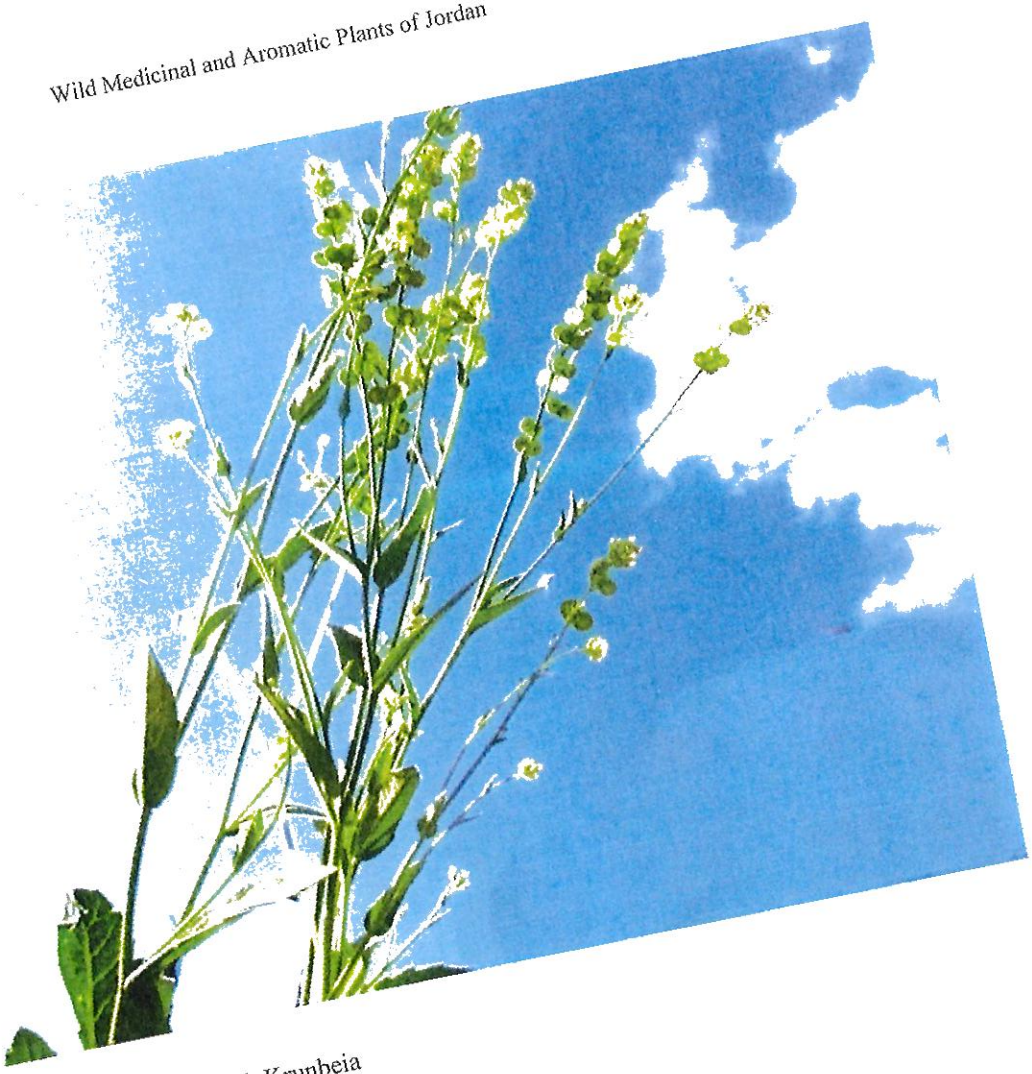
The complete plant at seeding stage



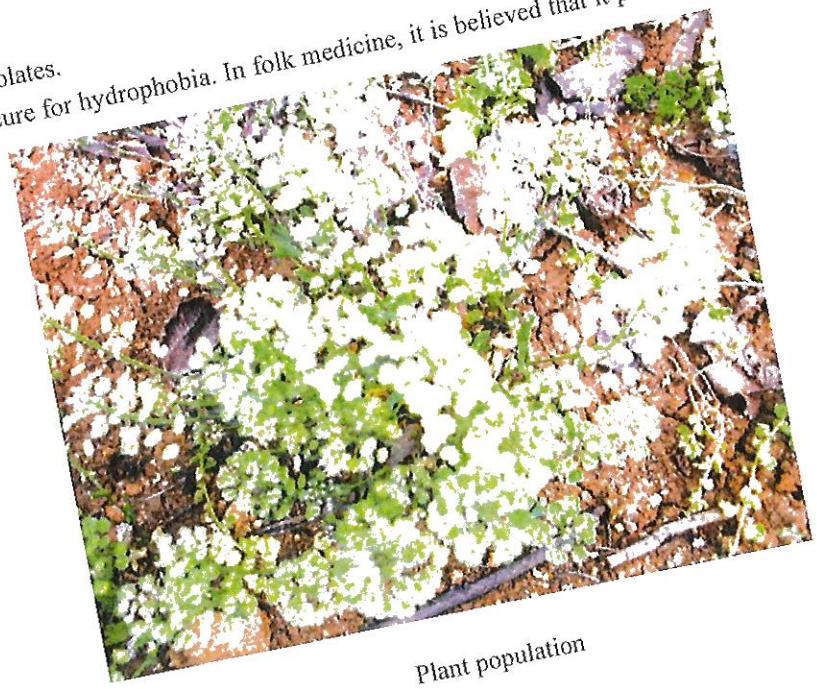
- **Arabic name**: Loof Sahrawi Mubargai
- **Scientific name**: *Biarum eximium* (Schott & Kotschy) Engler
- **Common name**: Biarum
- **Family name**: Araceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves
- **Chemical constituents**: Tyrosine-derived alkaloids, proanthocyanidins, flavonols, cyanidin, kaempferol, quercetin and cyanogenics.
- **Pharmacological action**: The plant is included in a composition for AIDS treatment, is anti-diabetic and has antibacterial properties.
- **Other uses**: The leaves are edible after being cooked. The plant is regarded as a wild flower.
- **Caution**: No reports.



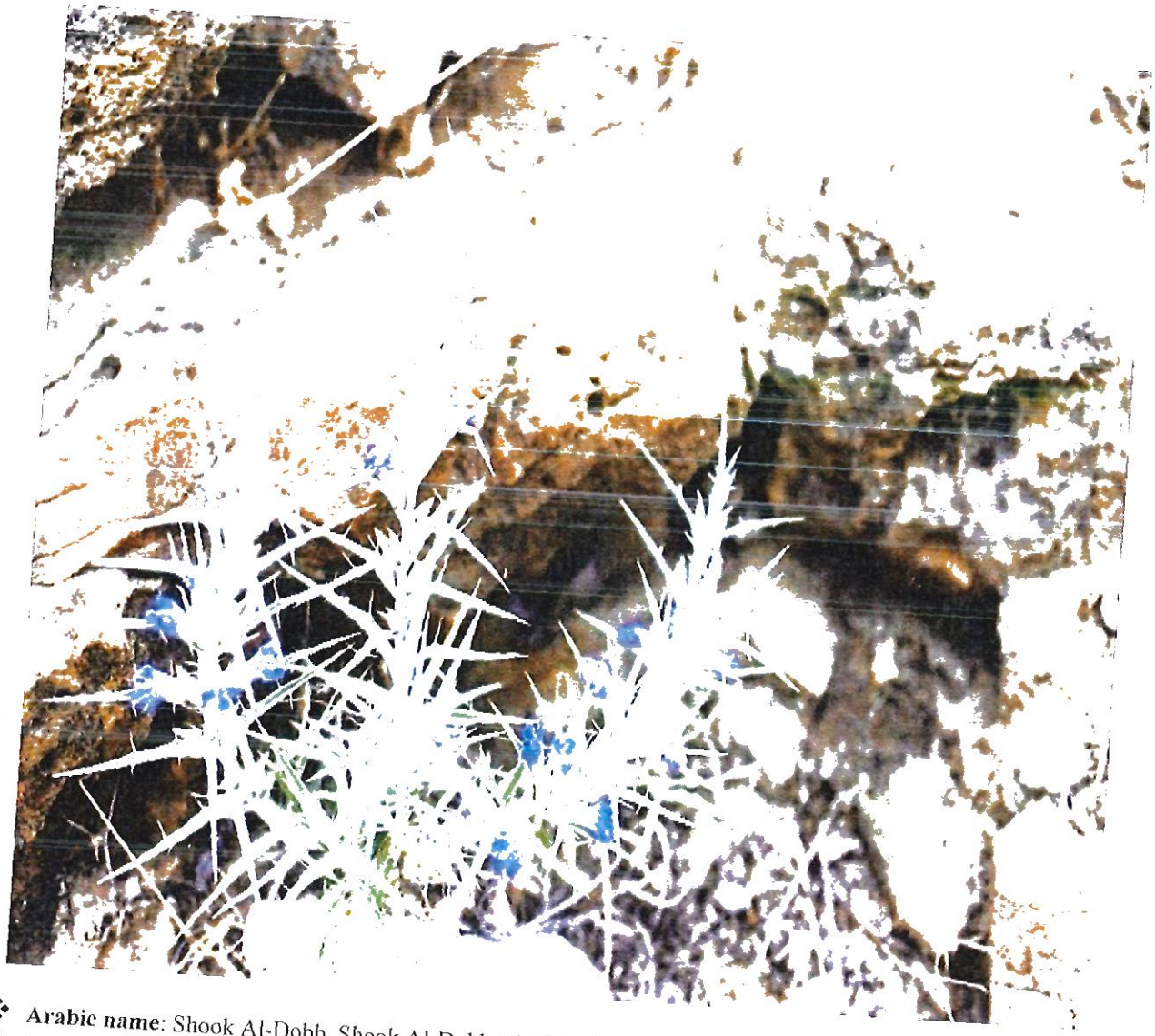
Biarum spp.



- **Arabic name**: Turs Al-Khardal, Krunbeia
- **Scientific name**: *Biscutella didyma* L.
- **Common name**: Buckler Mustard
- **Family name**: Cruciferae / Brassicaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole herb.
- **Chemical constituents**: Glucosinolates.
- **Pharmacological action**: It is a cure for hydrophobia. In folk medicine, it is believed that it protects both men and cattle from enchantments.
- **Other uses**: A common weed.
- **Caution**: No reports.



Plant population



- **Arabic name**: Shook Al-Dobb, Shook Al-Dubb Al-Muhadab, Naqi, Naqeel
- **Scientific name**: *Blepharis ciliaris* (L.) Burtt
- **Common name**: Blepharis
- **Family name**: Acanthaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Roots, leaves, and seeds.
- **Chemical constituents:** Alkaloids, flavonoids, steroles, tannins, isoflavone, and glycoside caffeic acid esters.
- **Pharmacological action**: The roots' powder is used for feeble sight, ophthalmia and against cataract formation, as an antiphlogistic, disinfectant, diuretic, and aphrodisiac, and as a cure for haemorrhoids. The root powder's charcoal is a haemostatic. Macerated leaves enhance sexuality. The seeds have remedial and antiphlogistic properties.
- **Other uses**: It is a wild flower, and is grazed by camels, goats and sheep.
- **Caution**: The plant should be used under medical supervision and is never to be taken internally.

- **Arabic name**: Orff Al-Deek, Rejl-Al-Hamama, Uraift-El-Deik
- **Scientific name**: *Bongardia chrysogonum* L.
- **Common name**: Bongardia
- **Family name:** Berberidaceae
- **Growth habit:** Herb
- **Life cycle**: Perennial
- **Part/s used**: Rhizomes, tuber, root, and leaves.
- **Chemical constituents**: Stylbenoid-based leonticine.
- **Pharmacological action**: The plant is an antispasmodic. Its boiled extract is used locally in the treatment of epilepsy, as an antiphlogistic and anti-cancer, and for the treatment of haematopoietic neoplasms, and the tuber's extract is used for epilepsy. It is believed that a cooled tuber decoction (2-3°C) cures urinary tract, prostate and piles disorders.
- ***Other uses***: Leaves and rhizomes are eaten raw or cooked, the same as for sorrel.
- ***Caution***: No reports.

The flowering plant

Tuber

Flowering plant in wheat field

- **Arabic name**: Himhim, Lisan Al-Thoor
- **Scientific name**: *Borago officinalis* L.
- **Common name**: Borage
- **Family name**: Boraginaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Flowering stem, flowers, leaves, and roots.
- **Chemical constituents**: Silicic acid, alkaloids of cyanoglucin, consolidin, mucilage, anthocyanins, saponins, tannin, resin and oil in seeds rich in gamma-linolenic acid. The plant contains vitamin C, sugars (glucose, fructose), cyclitols, amino acids, protein, phytosterol, waxy alcohol, resin acids, alkaloids and phenolic compounds. Fat and dhurrin are present in seeds.
- **Pharmacological action**: Seed oil is rich in gamma-linolenic acid, and because of this is reputed to slow down the skin ageing processes. It cures heart and urinary system disorders, chest and lung inflammations, chickenpox, and measles, is an emollient, anti-tussive, purgative, diaphoretic, and blood purifier, and repels kidney stones and arthritis. The leaves' infusion is diuretic, antipyretic, cardiotonic, cures jaundice and degrades stones. The herb and flowers are anti-inflammatories, treat rheumatism and dispel melancholy.
- **Other uses**: Small stems and fresh leaves are edible in salads or after being cooked. Only the oil, free from the alkaloid pyrrolizidine, is accepted for use in food.
- **Caution**: Sometimes the plant causes dermatitis; it contains toxic unsaturated pyrrolizidine alkaloids.

- **Arabic name**: Danga, Shweiri, Seel
- **Scientific name**: *Bromus tectorum* L
- **Common name**: Downy Broom Grass
- **Family name**: Gramineae / Poaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Seeds
- **Chemical constituents**: Moisture, protein, fat, fibre, lignin, ash, silica, cellulose, carbohydrates, calcium, gross energy, and phosphorus.
- **Pharmacological action**: A paste made from the seeds is applied as a poultice for chest ailments.
- **Other uses**: The leaves have been used as bedding. It is a forage species and common weed.
- **Caution**: The awns of the plant can cause mechanical injury to grazing animals.

- **Arabic name**: Luabia Murrah, Sam Alhayya, La'ia, Enab Alhayya
- **Scientific name**: *Bryonia cretica* L.
- **Common name**: Bryony, Red Berry Bryony, Cretan Bryony
- **Family name**: Cucurbitaceae
- **Growth habit**: Climber Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole plant, fruits or fruit juice, tuberous root, and leaves.
- **Chemical constituents**: Poison alkaloids (briocinina), saponin, tannin, toxic glycosides (bryonin, bryonidin), bryiin, bryogenin, saponins, cucurbitacin isomers, toxic protein, bryodufin and essential oil.
- **Pharmacological action**: Roots are cathartic, hydragogue, irritant, pectoral and purgative. They are useful for chest diseases such as whooping cough, pleurisy, diabetes, bronchitis, urinary tract inflammations, metrorrhagia, rheumatic pains and chilblains on hands and feet. The remedies containing red berry bryony are gastronols, used as homeopathic stomach tablets, homeopathic influenza drops and tablets. Internally the berries are a dangerous and drastic cathartic, emetic and abortive. Externally they are a powerful repulsive, anti-arthritic, anti-ecchymotic and anti-rheumatic.
  The plant is diuretic and an excellent remedy for gravel as well as all other urinary obstructions and disorders. There is a possible use of its components as inhibitors of cancerous tumours, after the removal of its toxins. Dried roots are purgative.
- **Other uses**: A wild flower plant.
- **Caution**: The plant is extremely toxic and causes irritation, and therefore is no longer used as a purgative or emetic since it is very dangerous. It is not advisable for homemade treatments. It causes copious urination, sweating, cessation, recumbence, trembling and convulsions. When the juice comes into contact with the skin it causes cystitis. Ingestion of the berries and plant juice violently harms the digestive system; in minor doses, it causes stomach aches, diarrhoea, vomiting and tachycardia. In greater doses, it leads to death due to respiratory breakdown. It is thought that an adult may die if he/she eats 40 or 50 berries. The fatal dose for children is about 15 fruits. Minor quantities may be lethal in some cases. It has been described as intoxicating an animal after it eats its roots, leaves or fruits. Its minute needle-like crystals of calcium oxalate of the ripe berries and the slimy mucilage in the rhizomes of black bryony are skin irritants. Roots contain a gum material called pruricin and another toxic material called cucurbitacin, and therefore must be used under strict medical supervision. It is mentioned that a single fruit has been enough to kill a child due to its high toxicity. Symptoms include intestinal disorders, vomiting, abdominal pain, severe diarrhoea, chronic stomach inflammation and intestine mucus membranes, nephritis, and maybe paralysis of the central nervous system,

dizziness, and stomach aches. Fruits cause death to dogs and general exiguity in cows, as well as sunken eyes, an inability to stand or to get up from the ground, and low body temperature, as well as severe diarrhoea in horses.

- **Arabic name**: Fashra, Luiba Murrah, Sam Alhayya
- **Scientific name**: *Bryonia dioca* Jacq.
- **Common name**: Bryony
- **Family name**: Cucurbitaceae
- **Growth habit**: Climber Herb
- **Life cycle**: Perennial
- **Part/s used**: Tuberous roots and leaves.
- **Chemical constituents**: Alkaloid, bitter glycoside, bitter essence, cucurbitacin and its isomeres, toxic resin, poisonous substances, triterpenoids, essential oils, tannins, poisonous glycosides including bryonine, bryonidine, bryonicin, bryodifin and bryogenin, saponins, and a poison protein.
- **Pharmacological action**: The plant is a hydragogue, emetic, expectorant, diaphoretic, vermifuge, vesicatory, anti-arthritic, anti-rheumatic, anti-ecchymotic, irritant, abortive, pectoral and purgative. It is used for inflammatory conditions, bronchial complaints, asthma, and intestinal ulcers. The whole herb has antiviral, anti-diabetic, and depurative effects. The plant is used for epilepsy, pulmonary edema, headaches, flatulence and rheumatism, and is also used as an animating agent to induce agitation in the body to calm ailments. It enhances blood affluence to the infected place, cures duodenal ulcers and bronchitis, stops metrorrhagia and causes blood coagulation. It is diuretic, calms anus and chest pain, and is an antipyretic. The roots are cathartic, and are useful for chest diseases, pleurisy and hypertension. It is a laxative and tonic, and may be used in curing urinary system inflammations. In addition, it is an expectorant, aphrodisiac, anthelmintic, rubefacient to skin and muscles, anti-arthritis and cytotoxic. The plant extract is a strong repellent and a powerful repulsive. Bryodin is a single chain of selectively ineffective protein ribosomes and inhibits the growth of permanent infection by AIDS and tumours of lymphatic cells and human fibroblasts. A fresh root decoction is a purgative and externally cures rheumatism and itching.
- **Other uses**: A wild flower plant.
- **Caution**: The plant is poisonous, and should be used with full care and under medical supervision. It is never to be used by pregnant women and its toxicity is due to the presence of pruricin and the cytotoxic cucurbitacin, which are both found in roots and fruits. It has been mentioned that 1-15 fruits are enough to kill a child. Symptoms include intestinal disorders, vomiting, abdominal pain, diarrhoea, inflammation in the mucus membranes of the stomach and intestines, kidney inflammation and maybe paralysis of the central nervous system and then death. Large doses may precipitate menstruation or cause haemorrhoidal trouble,

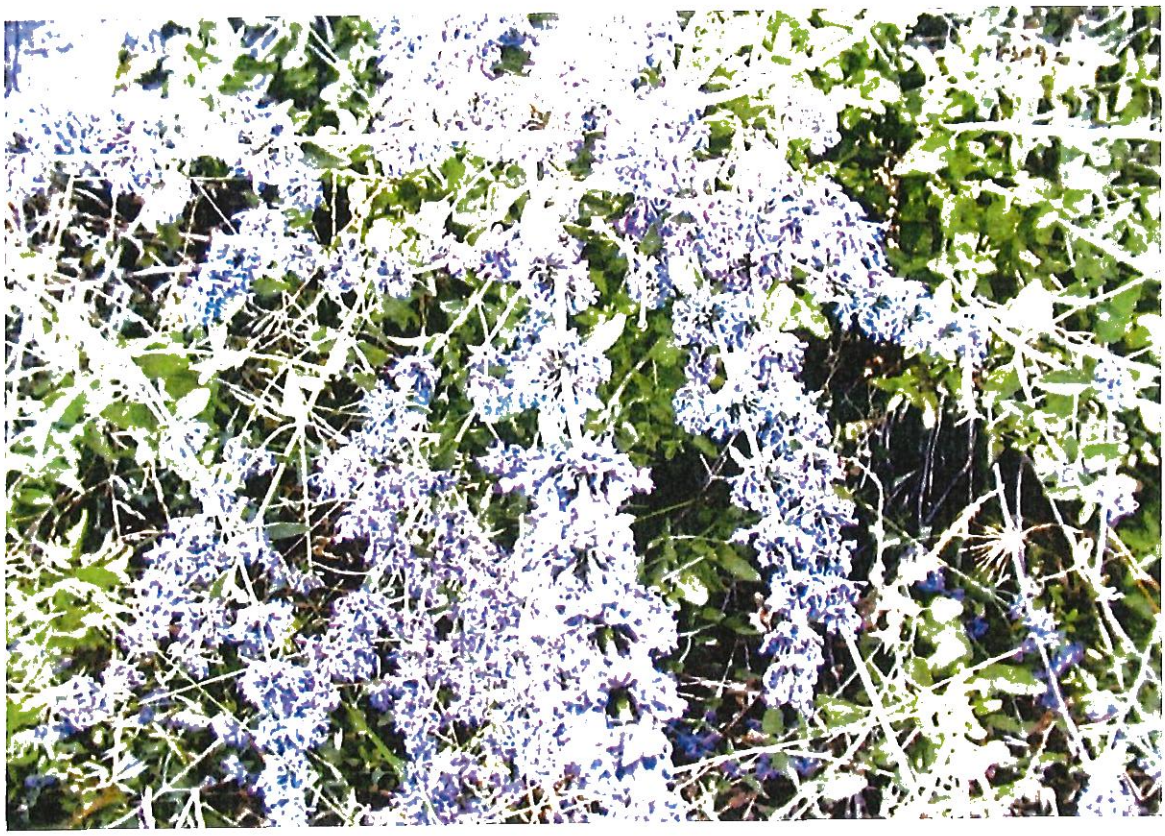
and therefore should be avoided during pregnancy. Bryony should be used with great caution by herbalists and only under the supervision of a qualified practitioner.

Bryonia cretica

Bryonia sp.

- **Arabic name**: Enab Al-Ha'iya
- **Scientific name**: *Bryonia syriaca* Boiss
- **Common name**: Syrian Bryony
- **Family name**: Cucurbitaceae
- **Growth habit**: A climbing herb
- **Life cycle**: Perennial
- **Part/s used**: Fruits, roots, and leaves.
- **Chemical constituents**: Resin in roots, cucurbitacin R diglucoside, cucurbitacins, delta-7-stigmastenol, devil's turnip, fatty acids, grumpy bear, isomultiflorenol, N4-(2-hydroxy-ethyl)-L-asparagine, red bryony, tamus, trihydroxyoctadecadiene, triterpene glycosides, and cucurbitacin glycosides are primarily responsible for the plant's bitterness and emetic effects.
- **Pharmacological action**: The plant is a laxative, emetic, cures stomach and intestinal diseases, treats metabolic disorders, prevents infection, and increases urination to relieve water retention. Its roots contain resin, a gum-like material and a powerful laxative. The plant shows high antifungal activity against *Aspergillus flavus*, *Fusarium moniliforme* and *Candida albicans* as well as high antibacterial activity. It is used in the treatment of cancer.
- **Other uses**: It is a wild flower. In addition, it is occasionally grown in gardens, sometimes accidentally, sometimes deliberately.
- **Caution**: Generally, these plants are poisonous; some are highly toxic, and may be fatal if ingested. When applied to the skin, bryony may cause blisters, dermatosis (skin disease), rashes, and redness. The plant may lower blood sugar levels; caution is advised for people with diabetes or hypoglycaemia, as well as those taking drugs, herbs, or supplements that affect blood sugar. Blood glucose levels may need to be monitored by a qualified healthcare professional, including a pharmacist, and medication adjustments may be necessary. Leaves' or roots' extracts must be used cautiously since both may be toxic. The plant's fruit must be avoided by all patients. It is toxic, and eating it may cause abortion, anuria (reduced urination), blisters, colic, collapse, convulsions, cramps, dermatosis (skin disease), diarrhoea, dizziness, haematochezia (blood in the stools), kidney damage, nephrosis (kidney disease without inflammation), neurosis (mental disorder), paralysis, rashes, and vomiting, as well as death. Individuals with a known allergy or sensitivity to bryony or other members of the Cucurbitaceae family should avoid using the plant. Its oral intake is unsafe for children and pregnant women.

- **Arabic name**: Helena, Athan Al-Fai'r
- **Scientific name**: *Bupleurum lancifolium* Hornem
- **Common name**: Round-Leaved Hare Ear
- **Family name**: Umbelliferae / Apiaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves, seeds, and roots.
- **Chemical constituents**: Fatty acid in leaves and seeds, phenols, spathulenol in flowers, hexacosane in fruits, triterpene glycosides, lignans, flavonoids, coumarins, polysaccharides, polyacetylenes, salicifoliol, furolactone-type lignin, isocaryophyllin, butyrolactone and butyrolactone gibraltaricum, lupeol, squalene, stigmasterol, betulin, sterol (spinasterol), erythnodiol, phytosterols and hexadecanoic acid are present in the roots. The plant also contains palmitic acid and γ-linolenic acid.
- **Pharmacological action**: The roots of many species belonging to these genera are used in folk medicine for colds, fever inflammations, influenza, malaria, hepatitis, and menopausal syndrome. Many polyacetylenes show antibiotic activities. Plant extracts and aromatic oil are widely used in folk medicine as a depurative and antiphlogistic. Some lignans (arctigenin, trachelogenin) have an inhibitory effect on the II topo-isomerase enzyme. This enzyme is associated with the HIV-1 virus responsible for AIDS. The polyacetylenes show antibacterial activity against *Staphylococcus aureus* and the fatty acid in the seeds and leaves has a similar effect. The seeds are considered as strong antioxidants, as are the seed oil and the hexane extracts of different parts. Recent studies have shown that the plant's essential oils have antifungal, anti-inflammatory and anti-spasmodic effects.
- **Other uses**: It is a wild flower and common weed.
- **Caution**: No reports.



- **Arabic name**: Zaitmam, Zaitmani
- **Scientific name**: *Calamintha incana* (Sm.) Heldr.
- **Common name**: Grey Moench
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves, flowering branches, and aromatic oil.
- **Chemical constituents**: Aromatic oil (1-2%) made from phenols including carvacrol, thymol, phenol yield dinitro-benzoate, cemine, terpinene, pinene, dipentine, borneol and carvone. In addition, ether-methyl, ether-methyl thymol, geraniol, acids, menthon, di-hydroxy comanic alcohol and monoterpenoids are present. Plant extract contains pinene, lemonin, thymol, carvacrol, and sesquiterpenes such caryophyllene. Flavonoids, iridoid glycosides, lamule, lamusidine dioxyglycosides, terpinene, bornyl acetate and borneol are also present. An oily substance is made from a mixture of linalool and astragol.
- **Pharmacological action**: The plant's oil is supposed to aid in pain reduction. Plant smelling decomposes all brain and chest defects. The oil also improves the memory and helps responsiveness and alertness. It helps reduce ailments, is a cure for whooping cough in children, as well as insomnia and arrhythmia. It is anti-tussive, antiasthma and anti-constriction. The plant is diuretic, a kidney and bladder tonic, cures rheumatism and gout, regulates menstruation, helps colds, epilepsy, tonsillitis, coughs, pleurisy, is a carminative, expels phlegm, and is a stimulant, digestive, antiseptic and anti-convulsive. It is an aphrodisiac, and is used for paralysis, rheumatism, kidney stones, and severe diarrhoea. It cleans vaginal secretions, kills intestinal worms, and has a wide spectrum in killing bacteria species that cause boils and skin furuncles. It overcomes typhoid fever, intestinal catarrh and tuberculosis. The plant's tea is used for nephritis and kidney diseases, and as a cataplasm for kidney pain.
- **Other uses**: Fresh and dried leaves and shoots are used raw, for seasoning and as a tea. The plant has a light, peppery taste, and is used in meat, cabbage, rice and bean dishes. It is also used in food as a flavouring agent. It may be added to the treatment of or to prevent hen and pig diseases caused by salmonella. It is an aroma in sweets and pastries, oils, sauces, and in compositions of toothpaste, soap and perfumes. Fresh and dried leaves are used to flavour tea.
- **Caution**: Oil at 1% is internally toxic, causes inflammation, and is generally considered as unsafe in drug compositions or in self-medication. It is narcotic, devastates the skin, results in illness and may cause abortion. It may be used by experts in herbal medicine or a medical doctor who can use such herbs or their

oils in small quantities, but it is not for use in self-medications. The plant is never to be recommended for pregnant women.

A patch from the plant in its natural habitat

- **Arabic name**: Henwa, Atharion Alhadaeiq
- **Scientific name**: *Calendula arvensis* L.
- **Common name**: Field Marigold
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant, especially flower petals and leaves.
- **Chemical constituents**: Saponins, sesquiterpene glycosides, triterpenoid saponins, oleanolic acid glycosides, amino acids, flavones derivatives, carotenoids of the flowers, oil, flavonoids, bitter essence, resin and essential oil.
- **Pharmacological action**: The plant is used for acne, menstrual obstructions, eczema, erysipelas, stiff joints, warts and varicose veins. It is an aphrodisiac, antibacterial, antiviral, anti-mutagenic, antiphlogistic, homeopathic, haemolytic, antispasmodic, emmenagogue and stimulant. It is included in remedy cosmetics for skin damage or ageing problems, and is used externally for bites, stings, sprains, wounds, and sore eyes, and as a cleanser, detoxifier, antiphlogistic, antiseptic, aperient, astringent, cholagogue, and vulnerary. A tea of plant petals tones circulation and eases varicose veins. An application of stem powder to corns and warts soon renders them easily removable. Extracts of resins and essential oils are used to treat ulcers and inflammations.
- **Other uses**: Plant flower heads are pickled. Young shoots and leaves are eaten raw or cooked. The leaves are very rich in vitamins and minerals, flowers are used in salads, and the plant is a common wild flower.
- **Caution**: No reports.

Plant populaion in the field

- **Arabic name**: Artta, Artta Jamil, Arta, Rosha
- **Scientific name**: *Calligonum comosum* L'Her
- **Common name**: Calligonum
- **Family name**: Polygonaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Roots, aerial parts, small branches, and fruits.
- ***Chemical constituents***: Essential oils, lauric, myristic, palmitic and linoleic acids, flavonoids and anthraquinones.
- **Pharmacological action**: The plant is astringent, stimulant, tonic, a cure for eye problems and stomach troubles, a perfume and hair colouring, and effective as an anti-intestinal worm. Dried leaves and stems are used for toothache and the plant has anticancer activity.
- **Other uses**: The plant is used in tanning, as a sandy soil binding, and is a wild flower. Small plant branches are edible, and can be added to milk or rice. A fuel plant gives fire without smoke and the fruits are edible. It is a forage plant for cattle. Its flowers give a rich powdered protein.
- **Caution**: No reports.

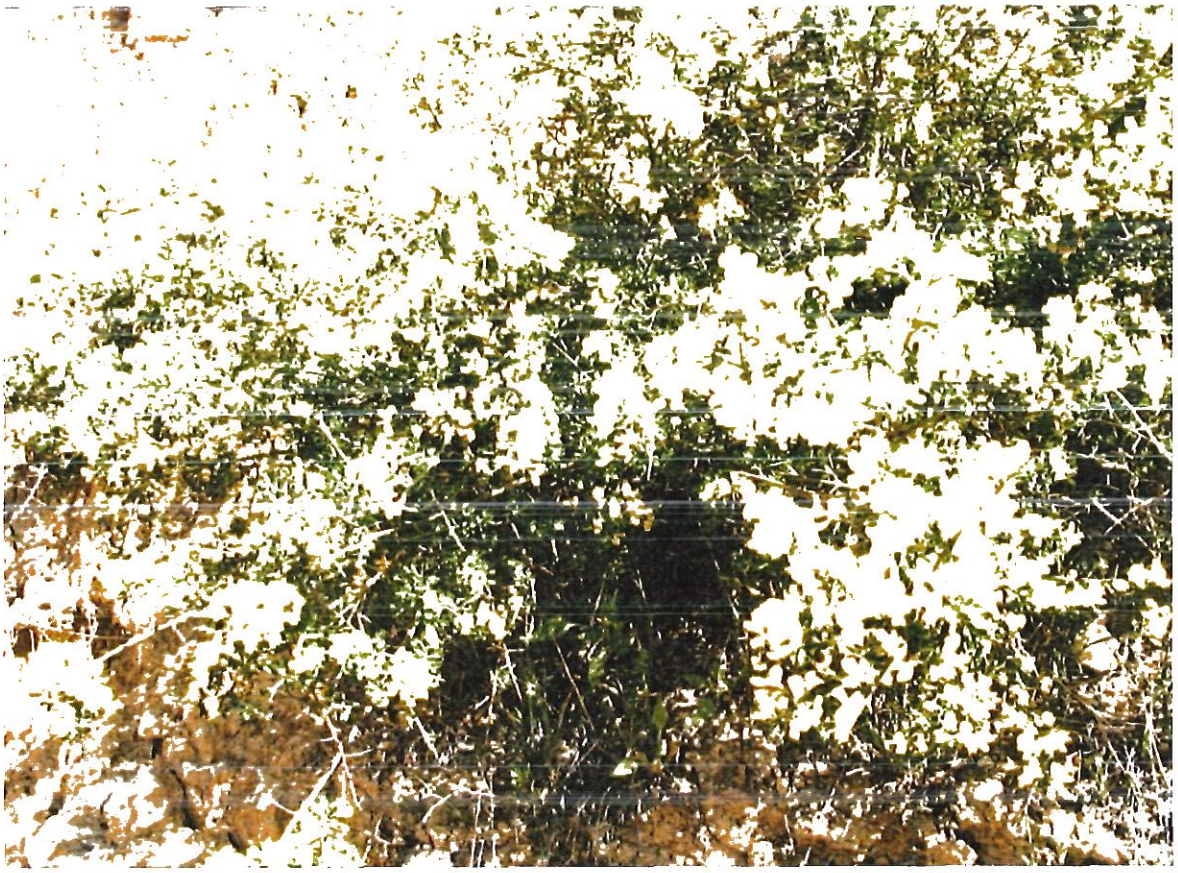
- **Arabic name**: Oshair, Oshar, Shajarat Loot, Porpnokh, Shinjar
- **Scientific name**: *Calotropis procera* (Wild) R.Br.
- **Common name**: Giant-Milkweed, Sodom-Apple, Swallow-Wort, Muder Plant, Giant Milk, Dead Sea Apple.
- **Family name**: Asclepiadaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Latex, mainly root, stem and branches' bark, fruits, sometimes flowers, leaves, root bark, and the whole plant.
- **Chemical constituents**: Poisonous latex consists of trypsin, calotropin, uscharin, calotroxin, palcephalin, apicalwanin alkaloid, emetine, caoutchouc, uscharidin, cephalin, steroidal heart poisons "cardiac aglycones", calactin, voruscharin, calotropagenin, pentacyclic triterpenes, poisonous materials such as strychnine, resins, digestive enzymes, polygallic acid, radix senegae from below-ground parts and toxic senegin. Latex includes cardiac glycosides, saponins, pollygallic acid and ricin. Radix senegin drug is produced from the below-ground parts.
- **Pharmacological action**: The plant is used for asthma, coughs, bronchitis, dyspepsia, ringworm, indigestion, dog bite wounds, skin diseases and eczema. It possesses antibacterial, cytotoxic, antiphlogistic, antimicrobial, anti-tumour, antifungal, acaricidal, astringent, anti-diarrhoeal, febrifuge, anthelmintic, depurative, laxative, and cholagogue properties. The dried whole plant is a good tonic, expectorant, depurative, analgesic, diaphoretic, and emetic, relieves pain, cures scorpion stings and cleans from menstruation. The latex is a skin inflammatory, and the plant is a stomach and intestine excitant.
  In folk medicine, the roots' bark is used to treat elephantiasis, leprosy, skin eruptions, chronic eczema, coldness, paralysis, arthralgia, swellings, fevers, catarrh, anorexia, inflammations, tumours, rheumatism, and dysentery. It is an antidote, laxative and abortive. Dried bitter sap is used as a tooth cavity filler. Roots and flowers' powder cures rheumatoid arthritis and is used as a paste to cure leucoderma. Bark, leaves and flowers' powder is used against diarrhoea and amoebic dysentery. A root decoction mixed with wheat flour, butter and sugar is used to cure gastric troubles. Leaves and brown sap are used for wounds, scorpion stings, and to strengthen palsy affected muscles. The brown toxic liquid poisons arrows in Africa and is used for warts. The root bark is antispasmodic and antimicrobial. The radix senegae drug is an expectorant, used for chest catarrh and is a general tonic. A flower infusion in very small amounts is a cure from inflammations,

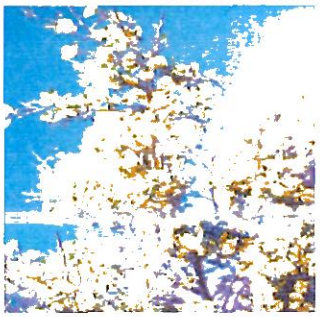
colds, coughs, pains and scorpion stings. A plant mixture with other plants is a strong purgative. The plant is used for piles, headaches, chest pains, toothache, syphilis, ulcers and abdominal pains. The milky juice (latex) is an irritant and applied as a cure against thorn pricking. The latex, when allowed to fall on sand, is taken as a cure against snake bites. The powdered flower is used for colds and coughs and a paste from the root, leaves and bark is used for elephantiasis.

In folk medicine, fresh juice is dropped over spines penetrating the skin to facilitate their removal. Leaves are heated over coal and put under the arm for a systemic analgesic effect.

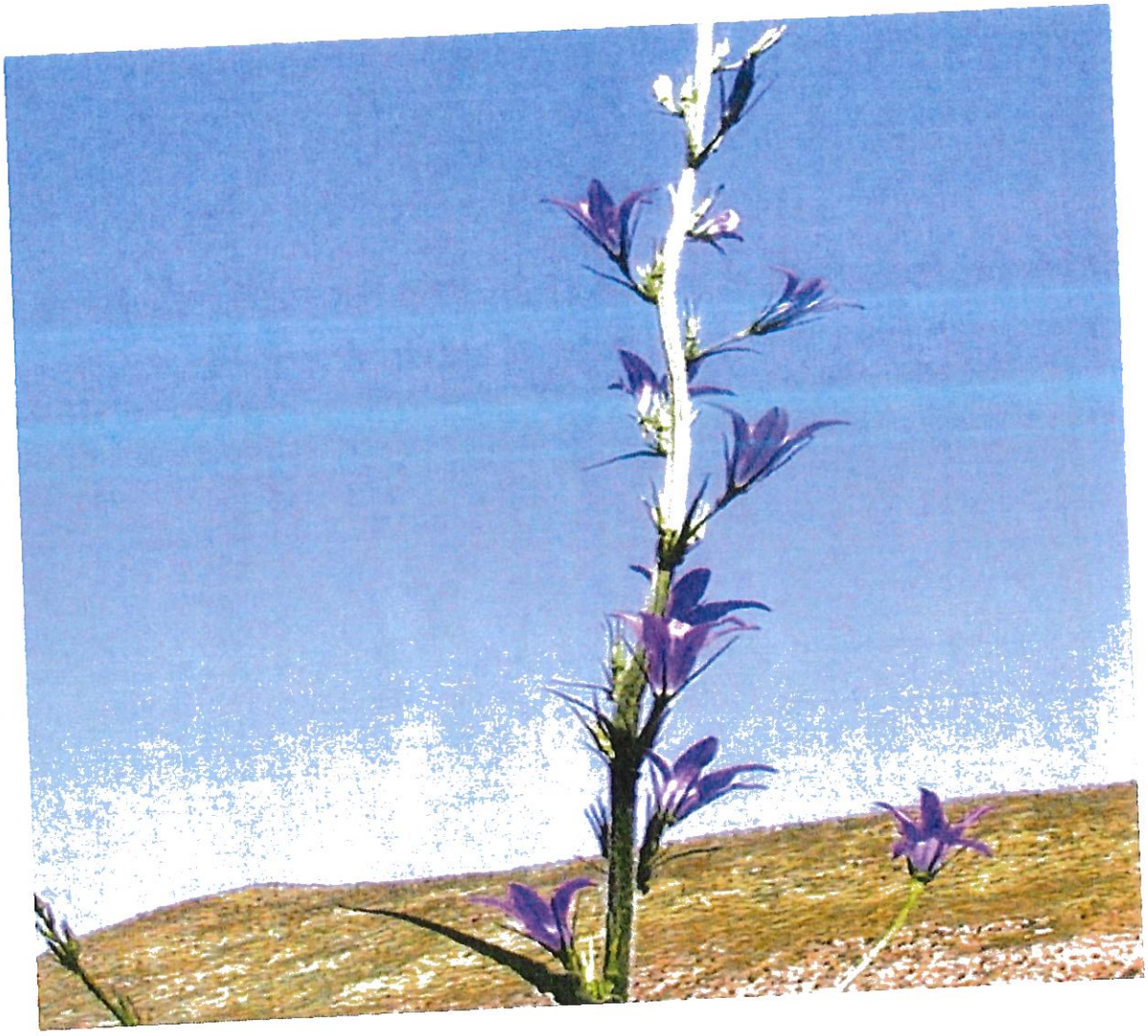
- **Other uses**: Latex is a fixing agent for perfumes and used in the tanning industry. The plant is a source of natural chemicals used in the gunpowder industry. The plant is highly toxic to the land snails *Theba pisana*.
- **Caution**: The plant is poisonous and contains cardenolide glycosides; the administration of latex at 1 mL/kg body weight via the oral route or at 0.005 mL/kg body weight per day caused death to goats in between 20 minutes and 4 days. Latex is inflammatory to the skin. The plant should not be used unless under medical supervision. Toxicity symptoms include vomiting, diarrhoea, slow heart pulses, dyspnoea, increases in blood pressure and muscle contractions. The plant causes death to humans and latex induces dermatitis.

The flower plant





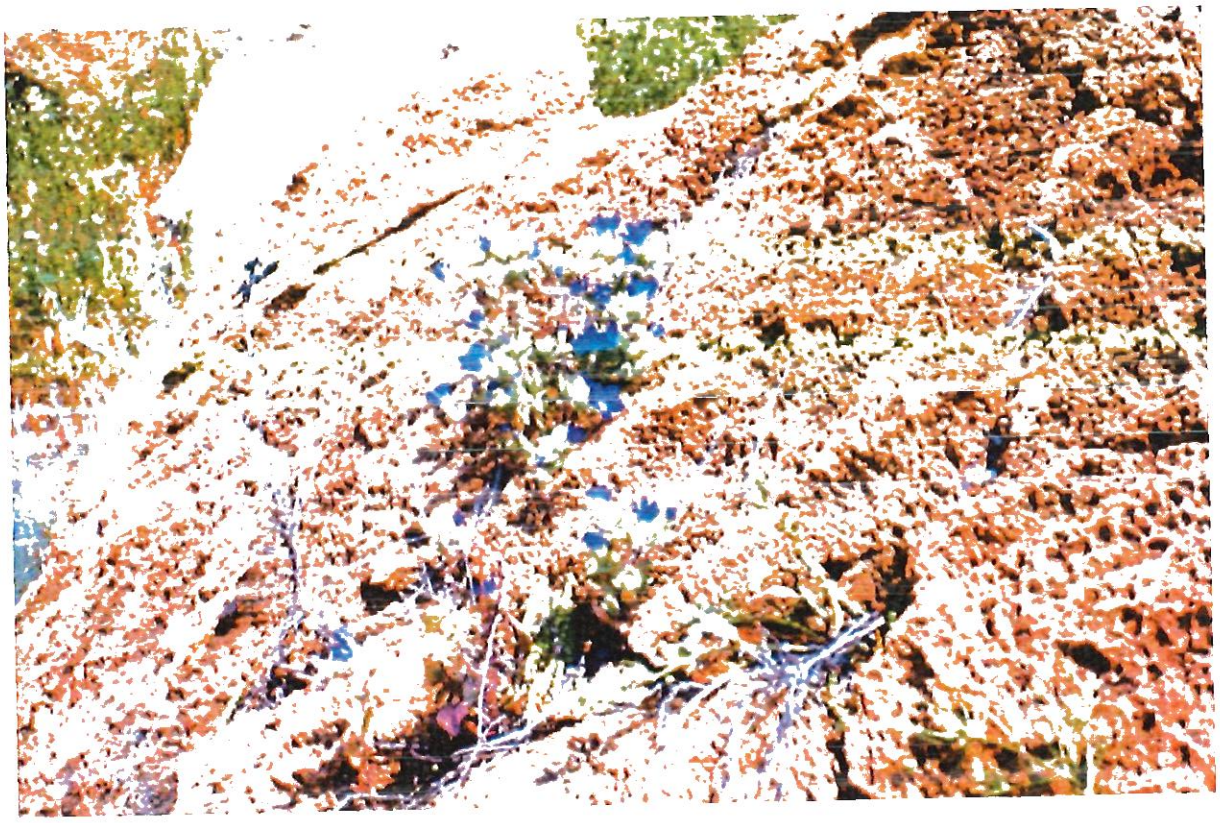
- **Arabic name**: Qandool
- **Scientific name**: *Calycotome villosa* (Poiret) Link
- **Common name**: Spiny Broom, Broom Spin
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Leaves, flowers, and fruits.
- **Chemical constituents**: Flavonoid chrysin-7-O-(β-D-glycopyranoside) (chrysin glucoside), glycoside flavone, chrysin-7-O-β-D-[(6"-acetyl) glycopyranoside] in leaves. Flavonoid glycosides from the flowers and leaves. Flavonols identified as 3,5,7,4′-tetrahydroxy-3′-methoxyflavone and 3,5,7,4′-tetrahydroxy-8-methoxyflavone were isolated from the seeds of *Calycotome villosa* subsp. *intermed.*
- **Pharmacological action**: The plant is used for snake bites. A flower infusion is used for cardiovascular and nervous systems and in blood dilation. Flavonoid compounds exhibit varied biological effects. A plant infusion is used to treat mouth ulcers.
- **Other uses**: It is a wild flower and a small forest shrub.
- **Caution**: No reports.



- **Arabic name**: Sanabil Jurabeia
- **Scientific name**: *Campanula rapunculus* L.
- **Common name**: Rampion Bellflower
- **Family name**: Campanulaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves, roots, flowers, and the whole plant.
- **Chemical constituents**: Insulin, leaves are rich in vitamin C, essential oil, and violdelphin from anthocyanin.
- **Pharmacological action**: The plant leachate is useful as a digestive, and is used as an anti-diabetic, and for face rubbing and skin whitening. It is an anti-conceptive and cures wounds. A root decoction is good for all kinds of inflammations including steatites, tonsillitis and other diseases of the mouth and throat such as boils and sores.
- **Other uses**: The leaves and roots are edible raw or cooked. Sometimes the plant is used as a vegetable. Small soft roots are eaten raw with vinegar and pepper, and leaves and roots are usually used in winter salads. Leaves eaten in the autumn and winter are spinach substitutes. Small twigs are whitened similarly to asparagus, and the plant is also used as a wild flower.
- **Caution**: No reports.

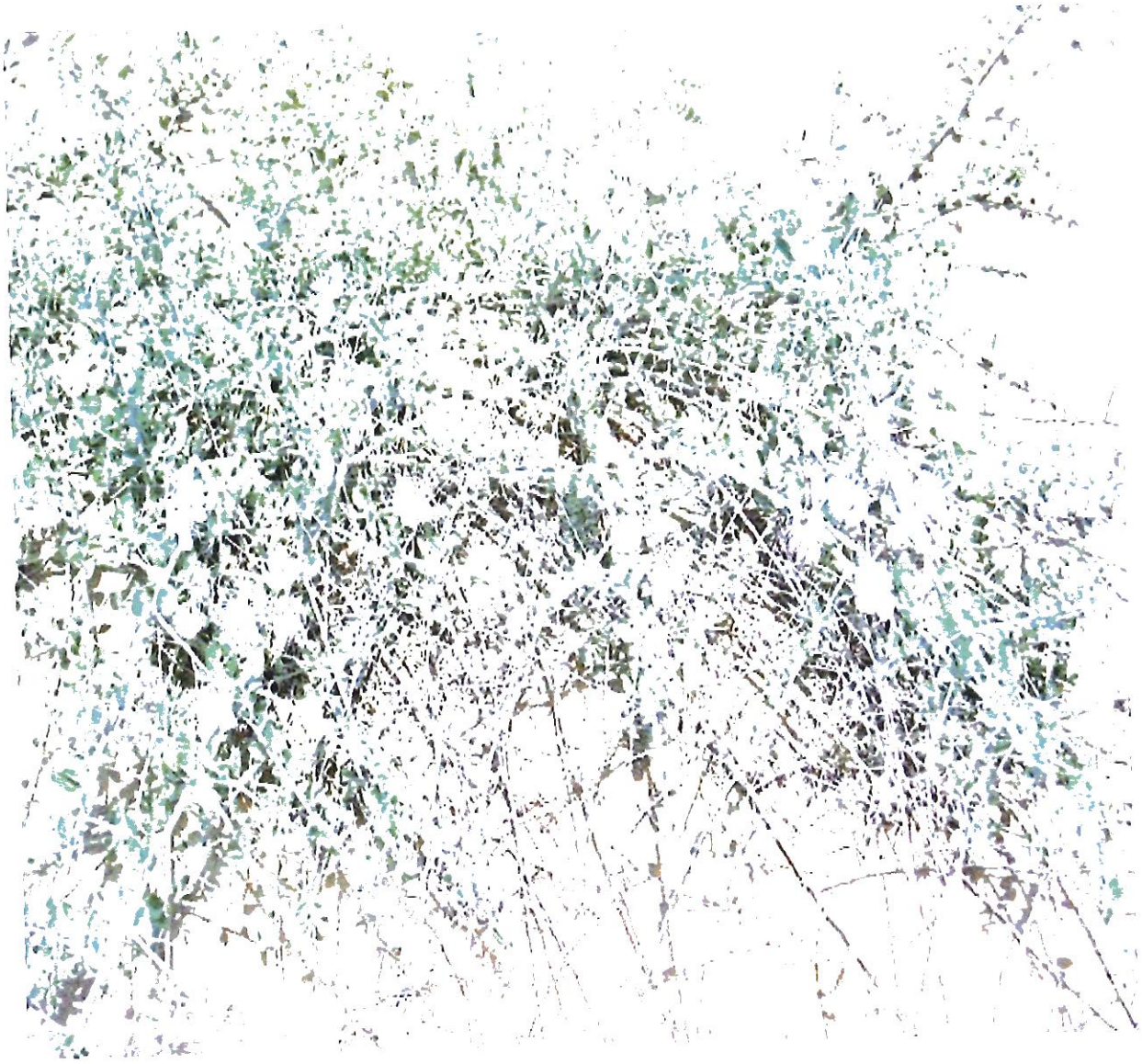
Plant with different flower colours

- **Arabic name**: Jarasia, Ward Al-Jaras, Zahrit Al-Jaras Al-Shawkia
- **Scientific name**: *Campanula strigosa* Banks and Sol.
- **Common name**: Bellflower, Strigosa Bellflower
- **Family name**: Campanulaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Roots
- **Chemical constituents**: Flavonoids and phenolic acids.
- **Pharmacological action**: Mouth and pharyngopathy treatment. The root is chewed in the treatment of heart and lung problems.
- **Other uses**: It is a wild flower and a weed, but is also used as an ornamental plant.
- **Caution**: No reports.



Fruits

- **Arabic name**: Lassaf, Kabbar, Kebr, Hanpooq, Tendeb, Sodad
- **Scientific name**: *Capparis decidua* (Forskal) Edgew.
- **Common name**: Sodada
- **Family name**: Capparidaceae / Capparaceae
- ***Growth habit***: *Shrub*
- **Life cycle**: Perennial
- **Part/s used**: Root, young shoots, flowering bud, opened flowers, root peel, sometimes seeds, leaves, and fruits.
- **Chemical constituents**: Amino acids, fatty acids, tocopherols, sterols, glucosinolates, phenolics, alkaloids, flavonoids and diterpene esters. Extracts from all plant parts are prominently rich in phenolics and glucosinates. Glucocabrin is present in seeds and upon grinding it liberates isothiocyanate-methyl-mustard oil.
- **Pharmacological action**: It is an anthelmintic plant and a laxative, and is used for asthma, nervine, hearing problems, constipation, coughs, hysteria and other psychological problems. Fruit pickles are tonic, strengthening, and cure gastric trouble. A fresh green stem paste cures boils. The root bark is used against coughs and colds, and is an antioxidant, anti-diabetic, anti-haemolytic and a wound healer. The plant possesses anti-haemolytic activity. It is traditionally used for curing teeth problems, coughs, asthma, inflammations, fever, malaria, rheumatism, and swellings. It is believed that the plant has laxative properties, and that it is anthelmintic and astringent. Fruits and seeds cure cholera and dysentery, and the alcoholic extract of the fruit bulb or root bark has anti-worm effects.
- **Other uses**: The fruits are made into pickles and the plant is a wild flower.
- **Caution**: No reports.



- **Arabic name**: Lassaf, Kabbar, Kabbar Shawki
- **Scientific name**: *Capparis galeata* (Fresen.) and *C. Murrayii*.
- **Common name**: Caper
- **Family name**: Capparidaceae / Capparaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Flowers buds, opened flowers, root bark, sometimes seeds, leaves, and fruits.
- **Chemical constituents**: Volatile sulfur compounds, alkaloids, mustard gas, flavonoid glycosides, a mustard oil glycoside named glucocapparin (methyl glucosinolate) and methyl isothiocyanate. Among the flavonoids, capers contain considerable amounts of the anti-oxidant bioflavonoid rutin. The pungency of unripe caper berries is due to the presence of aliphatic isothiocyanates (methyl, isopropyl and sec-butyl); furthermore, the pyridine alkaloid stachydrine, capparitutin, saponin, pectin, sterols and salts are present. Indole glucosinolates, fatty acids including linoleic, oleic, linolenic and palmitic acids, flavonol and glucosides are present in fruits.
- **Pharmacological action**: The plant is anthelmintic, analgesic, aphrodisiac, carminative, diaphoretic, emmenagogue and laxative.
- **Other uses**: Small pods are pickled and canned. The plant is regarded as a wild flower.
- **Caution**: Mustard oils have some effects that lead to inflammations and allergic reactions upon being touched.

- **Arabic name**: Shaflah, Lassaf, Kabbar, Kebr, Kabbar shawki
- **Scientific name**: *Capparis spinosa* L.
- **Common name**: Thorny Caper, Bush Caper, Common Caper, Caper, Egyptian Caper
- **Family name**: Capparidaceae / Capparaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Root, young shoots, flowering bud, opened flowers, root peel, sometimes seeds, leaves, and fruits.
- **Chemical constituents**: Rutin (quercetin 3-rutinoside), quercetin 7-rutinoside, quercetin 3-glucoside-7-rhamnoside, kaempferol-3-rutinoside, kaempferol-3-glucoside, and kaempferol-3-rhamnorutinoside. Flavonoid stachydrine and volatile isothiocyanates from the unripe fruit, flavonoid glycosides, lipids, and quercetin triglycoside. Pentosans (4%), pectic acid, saponins, fixed oil, rutin glycoside, volatile materials, volatile emetic materials and methyl senefol. Flowering buds contain glycoside ryutin, rotic acid, pectic acid and other materials with a garlic odour and bitter materials. Seeds contain 34-36% fixed yellow coloured oil made from linoleic acid and oleic acid, and a flavone-glycoside named capparirutine, and the root peel contains rutin acid, volatile materials with a garlic odour and bitter materials.
- **Pharmacological action**: It is expectorant, stimulant, diuretic, antifungal, antioxidant, anti-allergic, hypoglycaemic, antihistaminic, potential photoprotective, laxative and antiphlogistic. It is used for colds, headaches, hypertension, rheumatism, skin buttons, women's barrenness, arteriosclerosis, chills, as a renal disinfectant, and treats tuberculosis and bone joint disease. It is believed that the roots and root peel have anti-cancer activity, cure disc diseases and are anthelmintic. The plant is effective against coughs, earaches, deafness, back diseases, arteriosclerosis, as a renal disinfectant, general pains, neuralgia, and male and female infertility. The root bark is prepared as a poultice for spleen problems and haemorrhoids, leaves are used in a drug for spirits, and the bark is used for arthritis. The plant's tea is emetic and used to treat indurations, scrofula and disorders of the liver and spleen. The root's bark and leaves may have some anti-carcinogenic activity. The hydrolyzed products of indol-3-ylmethyl glucosinolates have anti-carcinogenic effects. Glucosinolates possess goitrogenic (anti-thyroid) activity. Rutin and quercetin may contribute to cancer prevention and selenium is also associated with the prevention of some forms of cancer.

In folk medicine, the tea of caper roots and young shoots is used for rheumatism, strangury and inflammation. It is an anti-carcinogen, anti-diarrhoeal, and a cure for paralysis and toothache. The root peel is cholagogue, appetitic, astringent and a pain reliever. Flower buds are used for urinary system disorders and bruises. The roots are tonic, fruits are digestive and diaphoretic and a flower tincture is anthelmintic. The root peel is prepared as a plaster for the treatment of haemorrhoids and spleen problems, as a kidney disinfectant and also for asthma, and as an anti-photoprotective, a nerve tonic and a cure from impotency in both sexes. Buds and roots are antiseptic and a cataplasm for eye infections.

- **Other uses**: It is a condiment plant. Caper berries are pickled. The caper plant is well known for its culinary properties; the immature flower buds, which are pickled in vinegar or preserved in granular salt, have long been used in recipes for salads, pasta, meat, sauces and garnishes to add a pungent spicy flavour and aroma to food. The tender young shoots also can be used as a vegetable. The plant is a wild flower.
- **Caution**: Some species are poisonous to animals and cause dermatitis.

Plant pods

Other *Capparis* spp.

Capparis parviflora

Capparis sp.

Capparis sp.

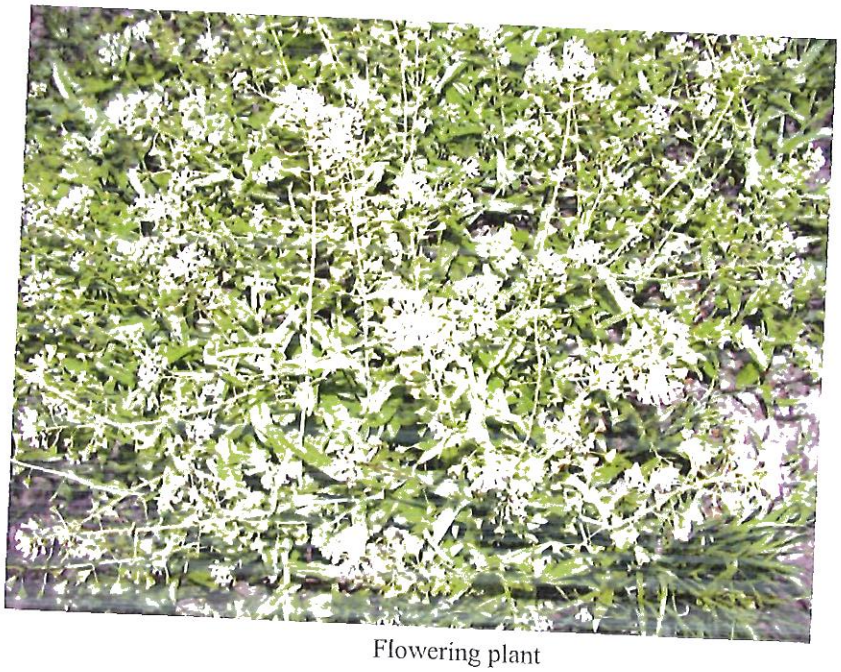
Capparis sp.

- **Arabic name**: Kees Al-Ra'i, Shantit Al-Ra'i
- **Scientific name**: *Capsella bursa-pastoris* Moench
- **Common name**: Shepherd's Purse
- **Family name**: Cruciferae / Brassicaceae
- **Growth habit**: Herb
- **Life cycle**: Annual or Biennial
- **Part/s used**: The whole flowering plant, especially in the summer (May-July), flowering stems, and the plant tops are always preferred.
- **Chemical constituents**: Dioxin, nitrogen materials, resin, choline, acetylcholine (important to stop after birth bleeding), puricin, hyssopin glycoside. The leaves are rich in thiamin (Vitamin B1), choline, and inositol. They are a good source of ascorbic acid (Vitamin C) and riboflavin (Vitamin B2). They also provide beta carotene (Vitamin A), Vitamin K (important for stopping internal bleeding), niacin, iron, and rutin, flavonoids, lipids, crude protein, crude fat, dietary fibre, total sugar, ash, mineral elements (sodium, potassium, calcium, magnesium, phosphorus, iron, sulfur, copper, zinc and manganese), fatty acids and carotenoids. The plant contains organic acids such as maleic, fumaric, citric and oxalic, saponins, fatty oil, tannins and mustard oil. It also contains tyramine, proline, histamine, volatile sulphuric-oil, flavones (rutin, diosmin), small amounts of cardiac compounds, choline derivatives, amino acids, a few alkaloids, and its essential oils contain sulfur. Astringent substances and glucosinolates are also found in the plant. Seeds contain fatty oil.
- **Pharmacological action**: The plant is astringent, a urinary disinfectant, anti-oxidant, anti-inflammatory, diuretic, haemostatic and a vasoconstrictor. It is used for diabetes, diarrhoea, haemorrhaging of the stomach, lungs, uterus and kidneys after childbirth and profuse menstruation. It is useful for dysentery, vulnerary, rheumatism, catarrh, dropsy and chronic menorrhagia. A decoction or tincture is used to check gastric, uterine, kidney, bladder, respiratory and urinary systems and pulmonary bleedings. Its decoction treats gastritis and enteritis, blood circulation, urinary and kidney disorders, wounds, eczema and other skin disorders. A plant decoction is used as an anus injection to stop haemorrhoids bleeding. It is antiphlogistic, lowers blood pressure, and contracts the uterus. Fumaric acid is known to have anti-cancer effects and the peptide from the roots has an anti-microbial property. The herbal tea is sometimes recommended as a general tonic. It helps to stop cuts, nose and post-childbirth bleeding. It is also used for headaches, leucorrhoea, cystitis, burns, scurvy and as a diaphoretic. An ointment made from the plant is used for internal and external

bleeding, as a uterus excitant and stimulant, emmenagogue, and hypotensive, and to cure mastitis, tuberculosis, kidney stones, fevers and liver diseases. Formic acid is known as an anti-carcinogen, while the peptide obtained from the roots has antimicrobial activity. Seeds are rubefacient and vesicant. A fresh leaves decoction is taken orally for menstrual disorders.

❖ **Other uses**: A wild green plant, its young leaves are added to salads or cooked like spinach and are good to mix with other greens. The young roots are also edible.
A variety of birds feed on the plant's seeds. Chickens apparently eat the whole plant, which may affect the colour and taste of their eggs. Dairy cattle graze the plant, and this may affect the milk's taste. The seeds were reported as toxic to mosquito larvae, and they therefore may help to control mosquitoes. The herb accumulates excessive salts from the soil, and thus may be grown for the purpose of salt removal.
Caution: Any internal use of this plant should be in moderation and preferably supervised by a qualified medical or herbal practitioner, since large doses are poisonous. This plant should not be used by pregnant women since it stimulates uterus relaxation. If any radical change in menstruation occurs or blood is released into the urine then a medical specialist must be consulted before the plant is used for self-medication. Caution is advised as human skin may blister from contact with the seeds. The plant is toxic to horses and cows since fibres may clog the intestine.

The plant population

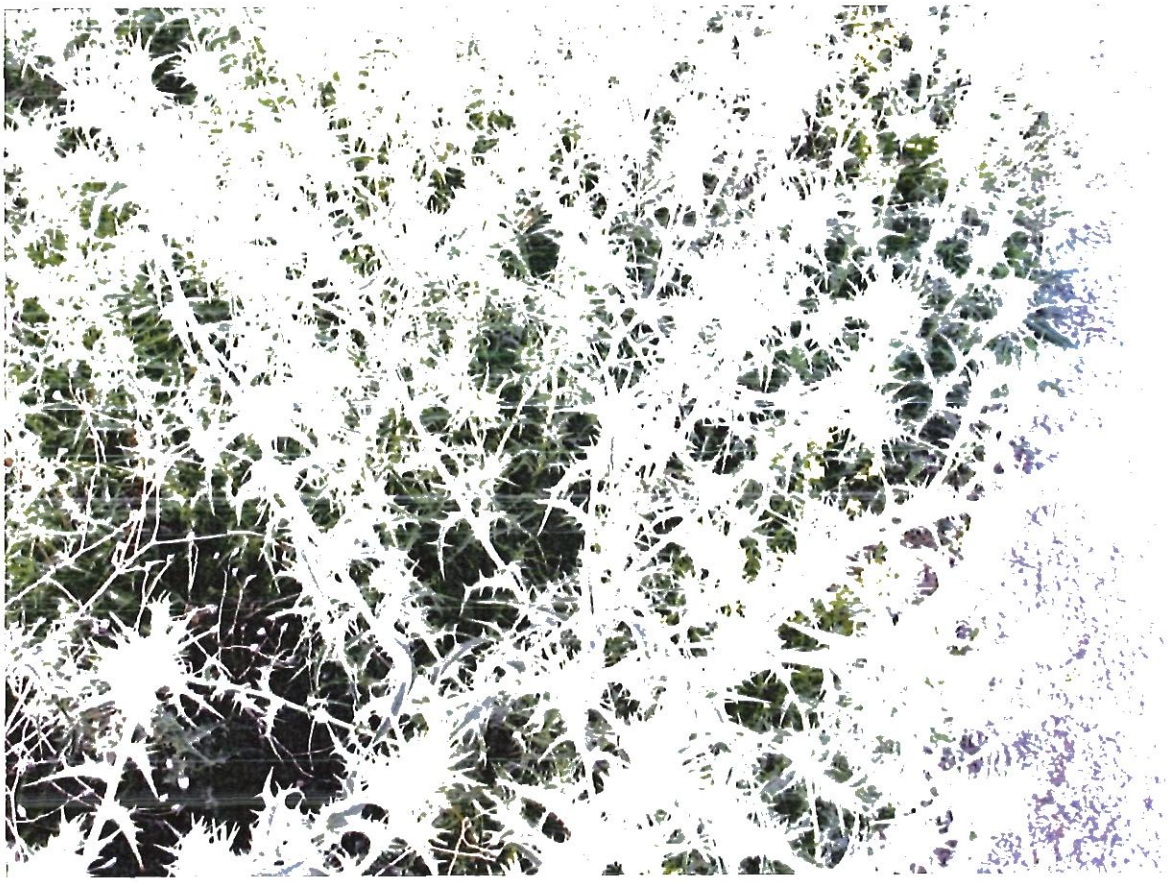


Flowering plant

- **Arabic name**: Qnebra, Harra
- **Scientific name**: *Cardaria draba* L.
- **Common name**: White Top, Hoary Cress, Heart-podded Hoary Cress
- **Family name**: Cruciferae / Brassicaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Fresh young leaves and seeds.
- **Chemical constituents**: Protein, erucic acid, fatty acids, sterols, toxic glucosinolates, glucoraphanin, methyl-thio-alkyl glucosinolates, esterols, mineral elements (sodium, potassium calcium, magnesium, phosphorus, iron, copper, zinc and manganese), fatty acids, vitamin C, carotenoids and oxalic acid. Hydrogen cyanide in leaves.
- **Pharmacological action**: The plant is anti-scurvy and carminative. The seeds have been used as a cure for flatulence.
  In folk medicine, the herb is used to expel intestinal worms, clean the kidney, and remove gravel. Its infusion is recommended for gingivitis. The seeds are carminative.
- **Other uses**: Young leaves and shoots are edible raw in salads or cooked as a potherb like spinach. In small quantities this substance is fairly harmless, and has even been recommended as having health benefits, but caution is suggested when feeding on leaves. The pungent leaves are used as a seasoning. The seed is used as a condiment and a pepper substitute.
- **Caution**: A single report mentioned that young leaves contain the toxin hydrogen cyanide, but no more details were given.

- **Arabic name**: Lesan Alkalb
- **Scientific name**: *Carduus argentatus* L.
- **Common name**: Thistle
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant except the roots and seeds.
- **Chemical constituents**: Mucilage, tannins, lactones, essential oil as an antibacterial, and nitrate.
- **Pharmacological action**: The plant is antibacterial. It is a stomach remedy and tonic, diuretic, and antiemetic for pregnant women. It stimulates bile secretion, is used for liver diseases and is also hepatoprotective. It increases milk production in animals, and acts as an anti-depressant.
- **Other uses**: The plant increases milk production in cattle when they feed on it. It is also a wild flower.
- **Caution**: The nitrates are toxic.

- **Arabic name**: Lesan Alkalb, Hothan
- **Scientific name**: *Carduus pycnocephalus* L.
- **Common name**: Arabian Thistle, Carduus Thistle, Italian Thistle
- **Family name**: Compositae / Asteraceae
- ***Growth habit***: *Herb*
- **Life cycle**: Annual
- **Part/s used**: Aerial parts, leaves, flowers, and stems.
- **Chemical constituents**: Essential oil, in which the prominent component is hexadecanoic acid (39.62%). Petroleum ether extract of the aerial parts of the plant revealed the presence of nineteen compounds; sixteen compounds were identified, representing 72.80% of the total unsaponifiable matter. Among these the major components were olean-12-en-3-α-ol (20.39%), ursa-9(11), 12-dien-3-ol (17.74%) and hexadecanoic acid (17.62%). A GC/MS analysis of fatty acid methyl ester showed the presence of twenty fatty acids methyl esters (91.38%). The main known components are 1,2 benzendicarboxylic acid dimethyl ester (31.08), palmitic acid methyl ester (20.08%) and azelaic acid dimethyl ester (7.60%).
- **Pharmacological action**: It is an antibacterial agent. The petroleum ether extract showed antispasmodic and *antiphlogistic effects*.
- **Other uses**: It is a wild flower plant and common weed.
- **Caution**: No reports.



- **Arabic name**: Qoos
- **Scientific name**: *Carthamus nitidus* Boiss
- **Common name**: Safflower
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: All plant parts, foliage parts, flowers, and seeds.
- **Chemical constituents**: The main active ingredient in safflower medicines is safflower yellow. In addition, fatty acids including oleic, stearic, palmitic and linoleic are in the seeds, as well as unsaturated oils, amino acids, minerals and vitamins B_1, B_2, B_{12}, C and E.
- **Pharmacological action**: The plant is used for kidney diseases. It has purgative and alexipharmic (antidote) effects, and is also used in medicated oil, promotes sweating and cures inflammations. A tea prepared from safflower foliage is used to prevent abortion and impotency. All parts of the plant are sold by herbalists as a remedy for various ailments and an aphrodisiac. Flowers treat many illnesses and are also used in a tonic aromatic tea. Safflower has a bitter herbal taste. Safflower medicines are used for menstrual problems, cardiovascular disease and pain and swelling associated with trauma.
  The pharmacology of safflower includes the excitation of smooth muscles. Dependent on the dose, there are increases in the frequency and amplitude of contractions of uterine tissue in dogs, rats, cavies (e.g. guinea pigs) and mice. Contraction effects of safflower on the blood vessels of toad and dog kidneys, with a reduction in kidney volume, have also been reported. Safflower extracts produce a long-term drop in the blood pressure of dogs, cats and hypertensive rats, and the adrenaline-induced reduction of capillary blood flow in rats was inhibited or reversed. Small doses of a safflower decoction increased the amplitude and systolic volume of the heartbeat in dogs. A 2-week course of yellow safflower reduced total cholesterol and raised HDL cholesterol in rabbits without affecting beta-lipoproteins, triglycerides or liver function. In rats, safflower decreased platelet aggregation and blood coagulation *in vivo* and *in vitro*. Yellow safflower at 220 mg/ml completely inhibited the aggregation of rabbit platelets and prevented experimental thrombosis in rats. Safflower treatment increased uterus weight in ovariectomized mice and increased seminal vesicle weight in castrated mice, but by a smaller amount than treatment with sex hormones. It exhibits strong analgesic effects. The central nervous system effects of barbitone and chloral hydrate were enhanced by yellow safflower and those of nikethamide (convulsions and some deaths) were reduced.

Safflower dilates arteries, reduces hypertension and increases blood flow and, hence, the oxygenation of tissues. It also inhibits thrombus formation and, over time, dissolves thrombi. Many prescriptions for invigorating blood circulation, especially those for the treatment of heart disease, include safflower along with other herbs, and have been used in the treatment of many diseases. Cardiovascular disease treatment is the main use of safflower because it invigorates the circulation. In 83% of patients with coronary disease, blood cholesterol levels were reduced after 6 weeks of treatment with safflower. In dogs, injections of safflower can reduce the damage done to the heart muscle by infractions, heart arrhythmia and hypertension.

- **Other uses**: A common weed and a wild flower.
- **Caution**: The genus *Carthamus* includes some species that may contain toxic mono- and bis-indole alkaloids, e.g. vindoline, catharanthine, vinblastine, vincristine and lurasidone.

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- **Arabic name**: Qoos
- **Scientific name**: *Carthamus tenuis* (Boiss. Et Bl.) Bornm.
- **Common name**: Safflower
- **Family name**: Compositae / Asteraceae
- ***Growth habit***: Herb
- **Life cycle**: Annual
- **Part/s used**: Flowers and roots.
- **Chemical constituents**: Caffeic acid 9-O-glucoside, quercetin, luteolin, 3'-methoxy luteolin, choline, proline, and phenols.
- **Pharmacological action**: It is an antioxidant, and is used for kidney diseases. The root extract is used for haemorrhoids and is believed to prevent cancer.
- **Other uses**: Fleshy leaves' petioles and young stems are edible raw. Natural pigments are obtainable from flowers. The plant is a source of allelochemicals. It is also a wild flower and common weed.
- **Caution**: The genus *Carthamus* includes some species that may contain toxic mono- and bis-indole alkaloids, e.g. vindoline, catharanthine, vinblastine, vincristine and lurasidone.

- **Arabic name:** Senna, Senamiki
- **Scientific name**: *Cassia angustifolia* Vahl.
- **Common name**: Senna, Indian Senna
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Shrub or Herb
- **Life cycle**: Perennial or Annual
- **Part/s used**: Dried leaves, mature fruits, and powder.
- **Chemical constituents**: Anthraquinone glycosides (sennosides A and B, aloe-emodin, rhein), naphthalin glycosides, flavones, atrosides, yellow colouring materials, beta-sitosterol, tartaric acid, mucin, essential oil, mucilage, tannin, and resin.
- **Pharmacological action**: It prevents biliousness, constipation, dermatosis, and gout, and is a purgative and natural laxative. The leaves' paste is applied for various skin diseases. Acne and ringworm were similarly treated. It is a powerful cathartic used for constipation.
- **Other uses**: A wild flower plant.
- **Caution**: Contains hydroxy-anthracen glycosides (2.5% in leaves, 2.2% in pods) and sennosides. The sennosides are irritating to the large intestine lining, causing peristaltic action and bowel evacuation. It helps to temporarily prevent fluid from being absorbed from the large intestine, thus contributing to softer stools. The plant is often combined with aromatic, carminative herbs to increase its palatability. Repeated use of the plant may worsen constipation and weaken the tone of the colon. It is never prescribed for pregnant, menstruating, nursing mothers, or children below 12 years old. People with Crohn's disease, ulcerative colitis, appendicitis, intestinal obstructions, and abdominal pain should not use the plant. When used for a long period, giving up its use may result in severe constipation. Readaptation may take a long time. Prolonged use causes chronic diarrhoea with excessive electrolyte and nutrient loss, enlargement of the ends of the fingers and toes, and pigmentation of the colon. Some serious allergic reactions include breathing difficulties, closed throat, swollen lips, tongue or face, and hives. Food containing the pods and/or the leaves must have the warning not to ingest quantities of hydroxyanthracene (calculated as sennoside B) of more than 18 mg/day and state that it is "not to be given to children under 12 years old; consult a physician if pregnant or breastfeeding; for prolonged use consult a specialist". However, there is no toxicity as a result of normal use (emodin and potential aloe-emodin are too low in content to be of concern).

- **Arabic name**: Senna, Senamiki
- **Scientific name**: *Cassia italica* (Mill.) Lam.
- **Common name**: Senna
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Shrub or Herb
- **Life cycle**: Perennial
- **Part/s used**: Dried leaves and fruits.
- **Chemical constituents**: It is rich in flavonoids and bioflavonoids, anthraquinone glycosides, naphthalin glycoside, mucilage and volatile oil.
- **Pharmacological action**: It is used for biliousness, constipation, dermatitis, gout, and is a purgative. Leaves are astringents as tannins, powdered and applied on the head for common colds. Their paste is applied externally on animals' hooves, and an infusion is taken internally in cases of foot-and-mouth disease. Leaves and jiggery are given to cure tympanites. Senna leaves are a splendid laxative, but sometimes causes bowel cramps which can be overcome by using it with an aromatic herb. Flavonoids and bioflavonoids are known for their antiphlogistic activity.
- **Other uses**: The plant is a wild flower.
- **Caution**: This plant should not be used in cases of clogged intestines, chronic intestinal inflammations and cystitis. It is not recommended to use the dried leaves when ground since they may cause abdominal colic and nausea because of resin materials. Its use for a long period and in considerable amounts may cause severe diarrhoea, dryness and the destruction of entrails. When used in large doses it affects all liver muscles.

- **Arabic name**: Senamaki, Senna, Senna Sudani, Senna Iskandarani
- **Scientific name**: *Cassia obovata* Collad.
- **Common name**: Senna
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Shrub or Herb
- **Life cycle**: Perennial
- **Part/s used**: Dried leaves and pods.

Fruits

- **Chemical constituents**: Senoside and its derivatives, naphthalin senosides, mucilage, flavon materials, essential oil, atrosides, yellow colouring materials, calcium oxalate crystals, resin, anthraquinones, chrysarobin, fixed oil, tannin, and hydrocyanic acid.
- **Pharmacological action**: The plant is a purgative, expectorant, cholagogue, stimulant, carminative, cathartic, a wound dresser, a blood purifier, and a laxative. It is used for constipation, rheumatism, backache, asthma, anaemia, typhoid, fever, pimples, liver diseases, jaundice, pneumonia and leprosy. It possesses anti-viral and anti-headache activities, cures leg ailments, gout and arthritis. It is a cardiotonic, anti-itching and used against scabies. It heals sores, prevents alopecia and gives hair a black colour. A leaves infusion is cathartic and causes slimness. Senna leaves are a splendid laxative, but sometimes cause bowel cramps which can be overcome by using it with an aromatic herb. The plant is also used in veterinary medicines.
- **Other uses**: A wild flower.
- **Caution**: This plant should not be used in cases of clogged intestines, chronic intestinal inflammations and cholecystitis. It is not recommended to use dried leaves in a ground form since they may cause abdominal colic and nausea because of the resin materials. Its use for a long period and in considerable amounts may cause severe diarrhoea, dryness and the destruction of entrails. When used in large doses it affects all liver muscles and therefore should never be used by pregnant women.

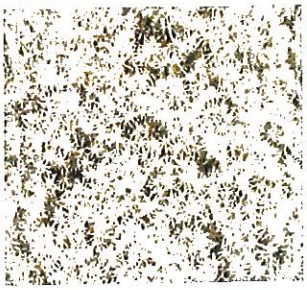
- **Arabic name**: Khadar, Sabat, Rejl Al-Ghurab
- **Scientific name**: *Cenchris ciliaris* L. (Syn.: *Pennisetum ciliare* (L.) Link)
- **Common name**: Buffelgrass, Foxtail Buffelgrass, Anjangrass, African Foxtail
- **Family name**: Gramineae / Poaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole herb.
- **Chemical constituents**: Protein (2.6%), fat (73.2%), total carbohydrates (31.9%), fibre, and ash (13.2%).
- **Pharmacological action**: The plant has antispasmodic, anti-diarrhoeal and antiemetic activities. In folk medicine, *C. ciliaris* is reported to be a lactagogue. Related species are recorded as being anodyne, diuretic, and emollient, and are folk remedies for kidney pain, tumours, sores and wounds.
- **Other uses**: It is a highly nutritious grass, excellent for pasture in hot, dry areas, and is valued as palatable forage and for intermittent grazing during drought periods in the tropics. As green feed, silage, or hay, it increases the flow of milk in cattle and imparts a sleek and glossy appearance. Erosion and dust control via ground covering can have a positive environmental impact; its seeds are sometimes mixed with millet for bread-making. It is widely used as an ornamental plant and is regarded as an invasive weed in different countries. It is a relative of, and potential gene donor to, the crop pearl millet.
- **Caution**: No reports.

- **Arabic name**: Murar, Qantarion Geeri, Murare, Al-Drdaryeh, Shook Al-Gemal
- **Scientific name**: *Centaurea calcitrapa* L.
- **Common name**: Purple Star Thistle, Red Star Thistle, Star Thistle
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual or Perennial
- **Part/s used**: Seeds, roots, leaves, and flowers.
- **Chemical constituents**: Aspartic proteinase, aromatic dimer, elemanolide, sesquiterpene lactones, lignans, crude oils, crude protein, carbohydrates, crude fibre, sitosterol, stigmasterol, apigenin-7-glucoside, cnicin ($C_{42}H_{56}O_{15}$), cyanidin-3-glucoside, cyanidin-3,5-diglucoside, hydrocarbons, alcohols, sterols, fatty acids, □-amyrin, cis-theaspirane, trans-theaspirane and bisabolene derivatives. Bitter materials, mineral elements, resin, flavones, acids, gum, potassium and free elements are also present.
- **Pharmacological action**: It is bitter, acrid, astringent, appetizer, vulnerary, a cure for skin diseases, anti-ophthalmic, stomachic, and used for intermittent fever and eye diseases. Cnicin has hypoglycaemic properties and possesses antibiotic activity. The leaves are used for cephalalgia. The plant is a tonic used in inappetence. Its roots and fruits are diuretics. The seeds are vulnerary, febrifuge, and effective against renal stones and pains. The powdered seeds are a remedy for gravel and fistula. Its infusion is diaphoretic and an emmenagogue. It is used as a tonic for anorexia, dyspepsia, and intermittent diseases. It is valuable in the forming stage of febrile inflammatory affections, may be used for colds, and acts well in menstrual suppression from colds.
- **Other uses**: The leaf base, petiole, and young green and fresh stems are edible. Plant extracts are used in the ripening of bovine cheese.
- **Caution**: No reports.

- **Arabic name**: Qantarion, Trenshah, Qantarion Kuhli
- **Scientific name**: *Centaurea cyasnoides* Berggren et Wahlenb.
- **Common name**: Syrian Cornflower, Blue Pottle, Syrian Cornflower-Thistle, Knapweed.
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual or Biennial
- **Part/s used**: Seeds, roots, and the whole plant.
- **Chemical constituents**: Tannin, sugars, blue dye, mucilage, and glycoside.
- **Pharmacological action**: The plant is a diuretic, cures nerves, epilepsy, hysteria, and psychological disorders. It is also used for kidney disorders.
  In folk medicine, the flowers are used for the preparation of boiled water as an eyewash and for conjunctivitis.
- **Other uses**: It is a wild flower and an ornamental plant.
- **Caution**: No reports.

- **Arabic name**: Qantaryoon Mdghil, Murar Shujairi
- **Scientific name**: *Centaurea dumulosa* Boiss.
- **Common name:** Shrubby Centaury
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Bushy herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves
- **Chemical constituents**: Unknown
- **Pharmacological action**: The plant is active against human bacterial pathogens including *Staphylococcus aureus* and is an efficient antioxidant. It is used against some infectious diseases.
- **Other uses**: A wild flower.
- **Caution**: No reports.

- **Arabic name**: Murar Shafafi
- **Scientific name**: *Centaurea hyalolepis* Boiss
- **Common name**: Centaury
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Aerial parts.
- **Chemical constituents**: 2,2-diphenyl-1-picrylhydrazyl (DPPH) and 2,2′-azino-bis (3-ethylbenzothiazoline-6-sulphonic acid, phenols, and flavonoids.
- **Pharmacological action**: The plant has antioxidant, cytotoxic and anti-inflammatory activities.
- **Other uses**: A wild flower.
- **Caution**: No reports.



- **Arabic name**: Murar, Qantaryoon Anbari
- **Scientific name**: *Centaurea iberica* Trev. Ex Spreng.
- **Common name**: Iberian Centaury, Spanish Thistle, Pale Centaury, Iberian Star Thistle
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Biennial
- **Part/s used**: Leaves, flowers, and roots.
- **Chemical constituents**: Anthocyanin pigment, of which the important compounds are saxenile, flavonoids, bitter materials, tannins, sugars, potassium, gum, mineral elements, resin, acids and free elements.
- **Pharmacological action**: It is a laxative and tonic plant. It is used for fever, menstruation problems and leucorrhoea. The flowers are diuretic, liver stimulants, and expectorants, and the plant cures prostate inflammation, and is useful for anaemia, anorexia and psychological disorders. It is used in cases of hysteria and kidney stones. The plant is also useful for weak stomach, liver and spleen disorders. Externally, its infusion is used in a wash for ophthalmia, eye congestion and head eczema. It also stimulates the activity of the salivary gland, stomach and intestinal gland, thereby relieving constipation and gas and promoting digestion.
  In folk medicine, the plant's fine powder is sprinkled on sores and its infusion as a lotion is used for boils, lowers agitated blood temperature, is a stimulant, wound and skin disease healer and reduces sugar blood levels. Its decoction is bitter, astringent and anti-diabetic. A root and fruit decoction is diuretic and expels kidney stones. The plant is used for different ailments.
- **Other uses**: The fleshy leaf petioles and young stems are edible raw after the leaves have been removed. The plant is a wild flower and common weed.
- **Caution**: No reports.

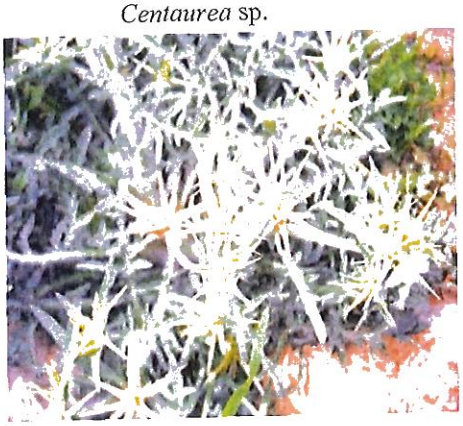
- **Arabic name**: Murar Bahit
- **Scientific name**: *Centaurea pallescens* Del.
- **Common name**: Pale Centaury
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Root and seeds.
- **Chemical constituents**: Acylated flavonoid triglycoside, 40-methoxy kaempferol 3-O-[a-L-rhamnopyranosyl-(1? 3)-(2-O-E-p-coumaroyl)] b-D-glucopyranoside-7-O-(4-O-E-p-coumaroyl) a-L-rhamnopyranoside.
- **Pharmacological action**: The powdered seeds are a remedy for kidney stones. The powdered root is said to cure fistula and gravel.
- **Other uses**: A wild flower and common weed. The leaf petiole is edible raw.
- **Caution**: No reports.

- **Arabic name**: Burku'an, Murar Seena
- **Scientific name**: *Centaurea sinaica* DC.
- **Common name**: Sinai Centaury
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant, leaves, and flowers.
- **Chemical constituents**: Sesquiterpene lactones, amberboin, and chlorohyssopifolin A and siniacin.
- **Pharmacological action**: The plant stimulates activity in the salivary gland, stomach and intestinal gland, thereby removing constipation and gas and promoting proper digestion.
- **Other uses**: A wild flower and common weed.
- **Caution**: No reports.

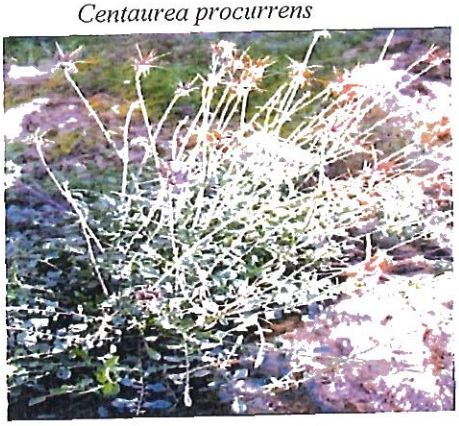
Flowering plant

Centaurea sp.

Centaurea procurrens

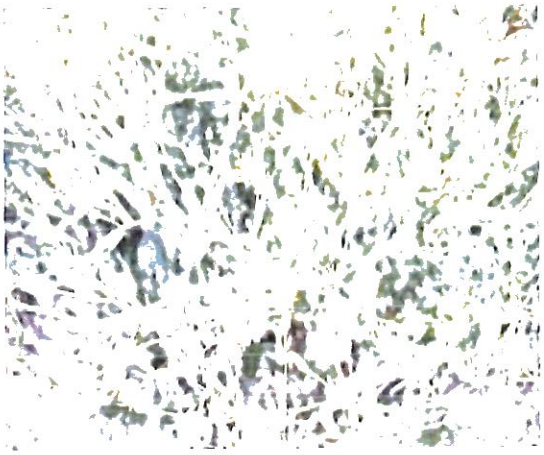


Centaurea procurrens



Centaurea eryngiodes

Centaurea iberica

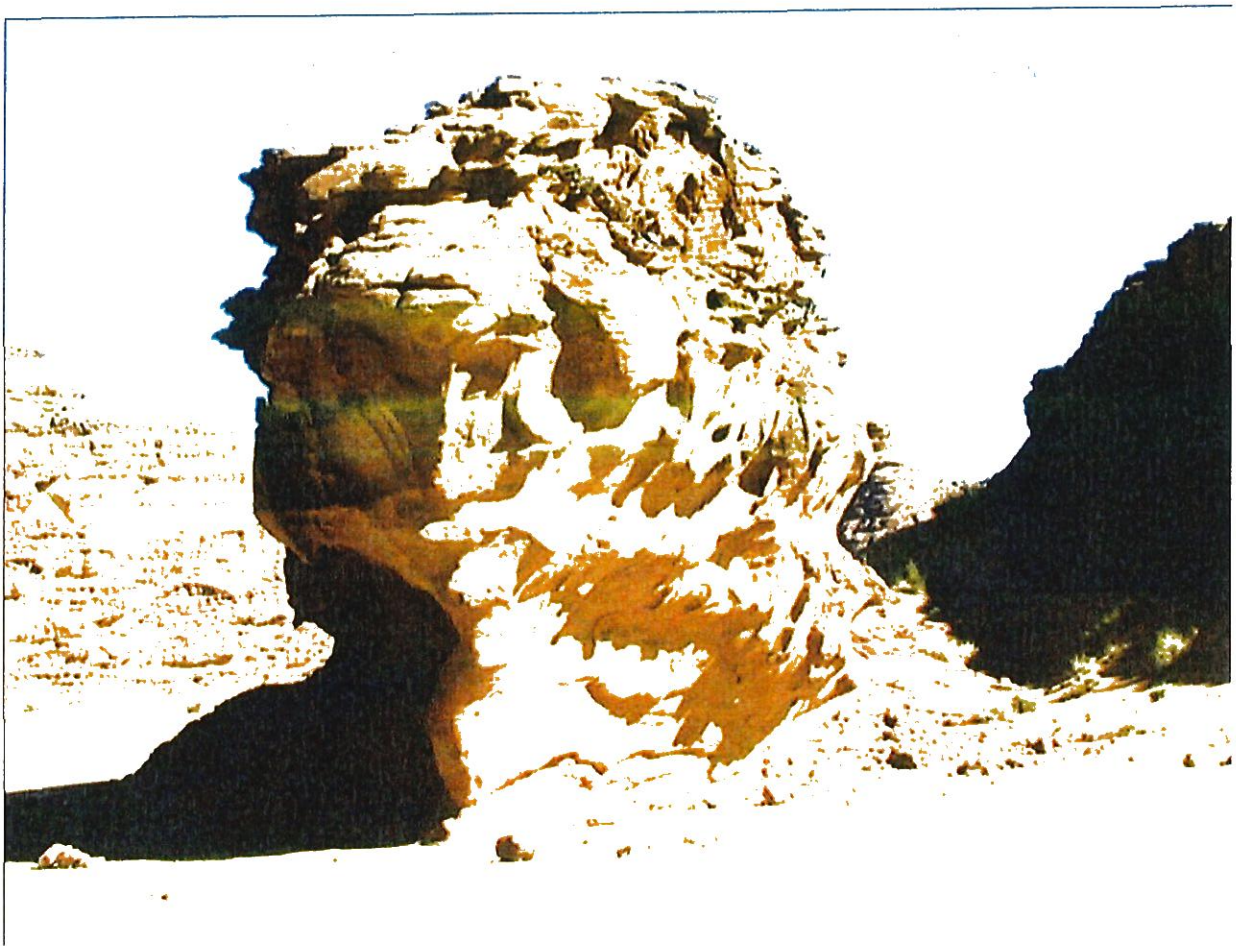


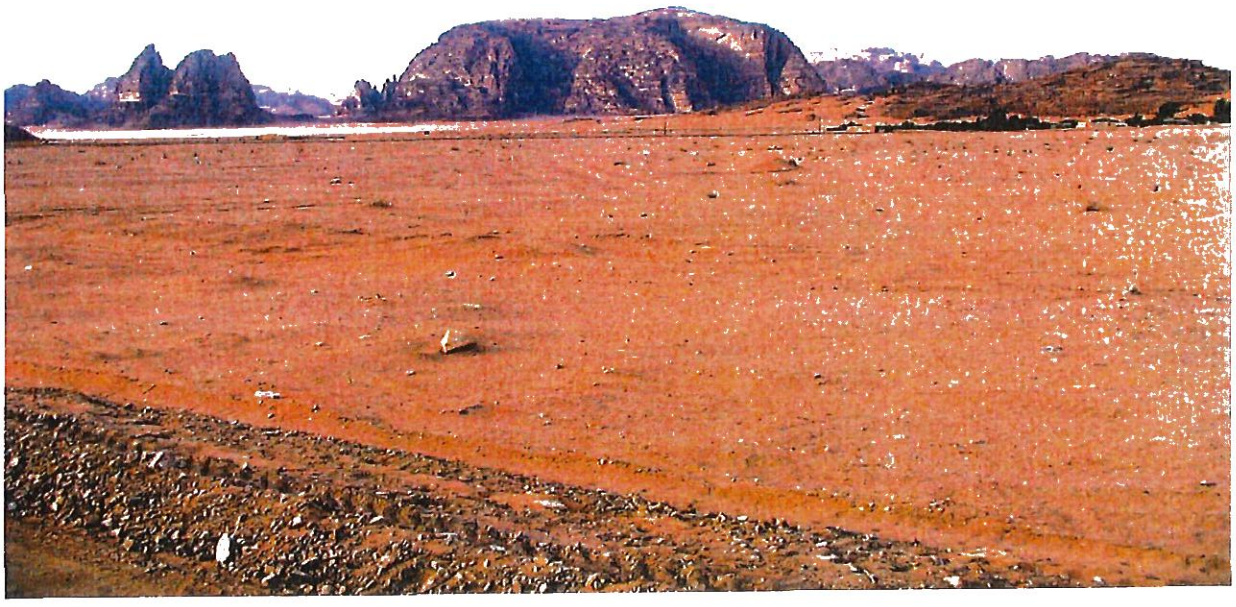
Centaurea postii

Centaurea sp.

Centaurea sp.

Different *Centaurea* spp.





In Wadi Rum

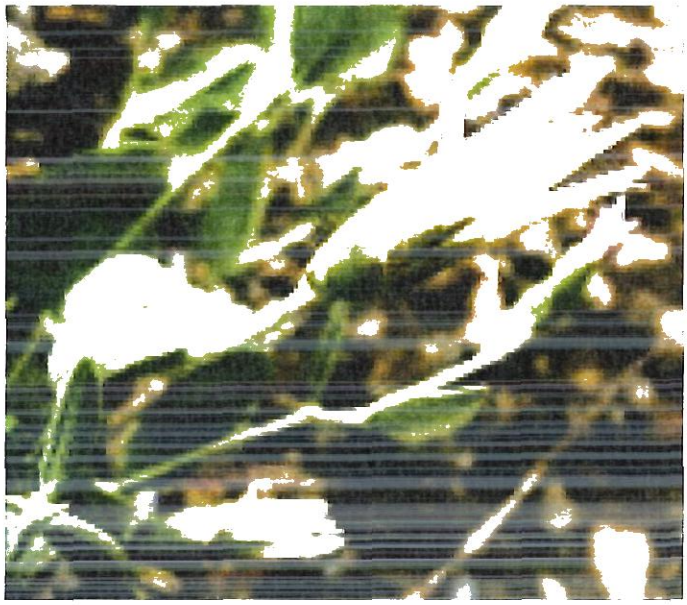
- **Arabic name**: Zewan, Shala, Zewan Asmar, Zewan Sori
- **Scientific name**: *Cephalaria syriaca* L.
- **Common name**: Syrian Cephelaria
- **Family name**: Dipsacaceae / Dipsaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Seeds and the whole herb.
- **Chemical constituents**: Alkaloids, triterpenoid saponins, flavonoids, coumarins, iridoids and oil are present in the seeds. The seeds also contain crude protein, crude fat, nitrogen and fibres. The plant's fatty acids include palmitic, lauric, myristic, stearic, oleic and linoleic acid, as well as saponins.
- **Pharmacological action**: The plant is used for medical purposes and in some traditional products. It is a substitute for the synthetic ascorbic acid. Fresh stem juice is locally used on wounds and bleeding cuts.
- **Other uses**: It is used as a fuel, and its oil is used for the improvement of wheat's baking value and as an antistaling agent for bread. Ground seeds are also added to wheat grains for a nice flavour. The oil is edible and suitable for soap making due to its high myristic acid content.
- **Caution**: No reports.

- **Arabic name**: Athan Al-Far
- **Scientific name**: *Cerastium dicotomum* L.
- **Common name**: Forked Mouse-Ear Chickweed
- **Family name**: Caryophyllaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant.
- **Chemical constituents**: Unknown
- **Pharmacological action**: Plant formulations are used in cases of cholangiocarcinoma (bile duct cancer), and are an emollient, a scarfskin rupture healer, and used for rough skin.
- **Other uses**: A wild flower and common weed.
- **Caution**: No reports.

- **Arabic name**: Halamat Al-Assal, Fool Bari'i
- **Scientific name**: *Cerinthe palaestina* Eig and Samuelsson
- **Common name**: Honeywort, Palestinian Honeywort
- **Family name**: Boraginaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Fruits and the whole plant.
- **Chemical constituents**: Pyrrolizidine alkaloids and other unknown chemicals.
- **Pharmacological action**: It may has vasodilating and antispasmodic properties. It binds to estrogen receptors, and improves ejaculatory latency. It is a diuretic and is used for jaundice and scurvy. The fruit extract showed activity on salmonella typhimurium strain TA-102.
- **Other uses**: A wild flower.
- **Caution**: The plant causes allergies to people sensitive to carrot, celery, mugwort or other members of the Apiaceae family. It may exacerbate the effects or stimulate the growth of cancer cells, and may also cause protein deficiency (high risk for thrombosis). Its use must be stopped at least 2 weeks prior to any surgical operation. The plant also induces photosensitivity and diarrhoea. Some constituents are carcinogenic and mutagenic. Its use with a coagulant may increase the risk of bleeding.
  Pyrrolizidine alkaloids are toxic compounds which can alkylate DNA and thus cause mutations and even cancer in herbivores and humans.

- **Arabic name**: Kharaz Al-Sokhoor, Hazaz Al-Sokhoor
- **Scientific name**: *Cetraria islandica* (L.) Ach
- **Common name**: Iceland Moss
- **Family name**: Parmeliaceae
- **Growth habit**: Lichen
- **Life cycle**: Annual
- **Part/s used**: The whole lichen.
- **Chemical constituents**: Mucilage.
- **Pharmacological action**: The antimicrobial substances in the mucilage are useful for chest diseases including tuberculosis. A lichen infusion or decoction is an appetite tonic, anti-tussive, and is used for chest diseases. It may also be a stomach tonic for pregnancy vomiting and in some cases of diabetes.
- **Other uses**: Lichen may be dried and used for decoration.
- **Caution**: No reports.

- **Arabic name**: Gardenia
- **Scientific name**: *Chardinia orientalis* (L.) Kuntz
- **Common name**: Lipfern
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves, flowers, roots, seeds, and the whole plant.
- **Chemical constituents**: Unknown
- **Pharmacological action**: Used for curing stomach problems and as an anti-carcinogen.
- **Other uses**: A wild flower.
- **Caution**: No reports.

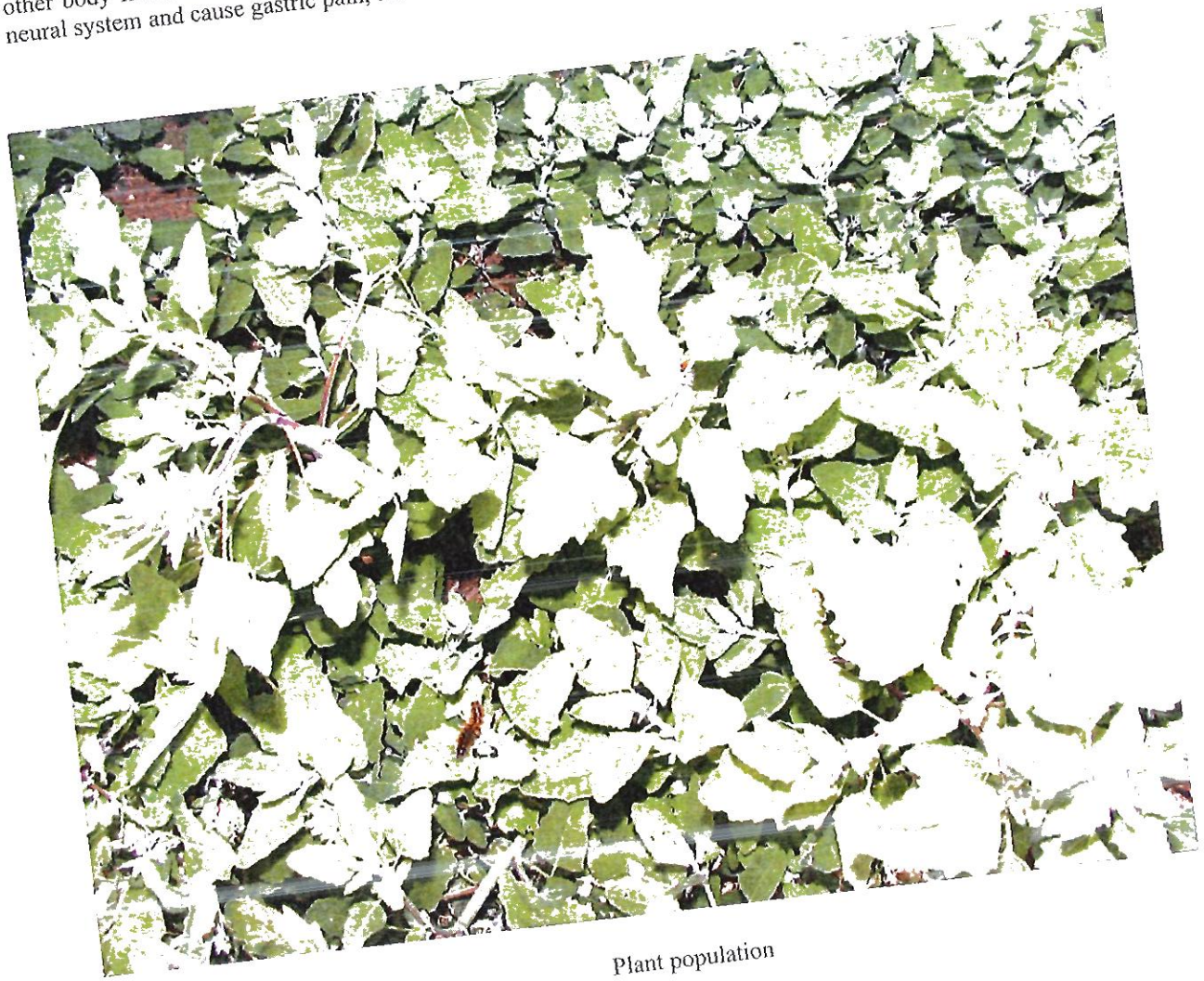


Flowering branches

Arabic name: Rumram, Thurbaih, Fisai Al-Kalb, Fass Al-Kalb, Attara, Thanab Alkalb, Aldajajeh Alsameenah

- **Scientific name**: *Chenopodium album* L.
- **Common name**: Fat-hen, Lambsquarters
- **Family name**: Chenopodiaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant.
- **Chemical constituents**: Ferulic acid, vanillic acid, cinnamic acid, amide, alkaloid in roots, oxalic acid. Leaves contain high percentages of vitamins A and C, chenopodin, choline, mucilage, nitrates, and oxalates. Seeds contain saponin, fatty acid, crude protein, lysine, ash, crude fibre, sugars, hydrolyzable carbohydrates, phytic acid, phosphorus, calcium and residual lipids. Anthraquinone glycoside, ascorbic acid, dehydroascorbic acids, xyloside, chenoalbicin, cinnamic acid and amide alkaloid are found in roots.
- **Pharmacological action**: The plant is aperient, cyanogenetic, diuretic, emollient, cathartic, laxative, sedative and vermifuge. It is used to treat burns, depression, gastrointestinal disorders, obesity, scrofula, skin ailments, stomach pain, and women's ailments. The plant's decoction is used for its anthelmintic properties (especially against tapeworm) and as a mouth wash it cures gingivitis. The seed oil is effective against many forms of intestinal parasites. The plant is anti-rheumatic, an excellent remedy for kidney trouble, anti-feverish and antinociceptive. The seeds, in combination with sea wrack, bring splendid results in weight loss. Nettle tea is good for colds and fevers. It is an excellent remedy for dandruff and brings back natural hair colour. It is an emollient, digestive and laxative, and is used for peptic ulcer, cardiac and spleen disorders. The roots are used for jaundice and urinary diseases. Fruit and roots are known as an antidote to snake poison. In folk medicine, the plant is used as an anthelmintic. Fresh leaves are cooked as a vegetable and eaten raw for constipation and intestinal worms.
- **Other uses**: The green leaves contain vitamin A. The plant is an excellent green of edible stems, leaves, flowers and tiny leaves. The seeds are dried and ground into a meal and can be eaten raw, baked into bread or added to salads. However, the seeds should be soaked in water and washed to remove any saponins. They can also be sprouted and added to salads or made into butter. Young inflorescences are cooked, providing a tasteful broccoli substitute.

❖ **Caution**: It is a nitrate accumulating weed. The nitrate is reduced in the rumen to nitrite, which is toxic for ruminants at 0.5 g/kg (a single oral dose). Toxicity symptoms include excitation in sheep, dyspnoea, weak heart pulses, sudden death, muddy mucus membranes, significant methaemoglobin, high serum, ocular or other body fluid, and a brownish discolouration to blood. Large quantities of cooked leaves can disturb the neural system and cause gastric pain, and raw leaves may also be toxic.



Plant population

- **Arabic name**: Sha'i Mekkah, Mentani Tayebba, Rumram, Shai Maksiki, Natenah, Rejl Alwaza, Thurbaih, Fittna, Ushbat Mariam, Abu-Uffain, Wazi, Athena.
- **Scientific name**: *Chenopodium ambrosioides* L.
- **Common name**: American Wormseed, Mexican Tea Epazote, Wormseed, Jesuit's Tea, Mexican Tea
- **Family name**: Chenopodiaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Seeds, leaves, seed oil, green tops of stems, branches, soft dried parts and the whole herb.
- **Chemical constituents**: Ferulic acid, vanillic acid, amino acids include glycine, alanine, valine, and leucine. The essential oil (0.4-1%), commercially known as *Chenopodium* oil, is distributed differently in different parts. The oil's major constituents are ascaridole (60-66% of the oil), glycol anhydride (5%), isoascaridole, p-cymene, □-terpinene, limonene, alpha-terpinene, alpha-terpinolene or delta-4-carene, □-carvacrol, carveol, nerol, thymol, carvone, trans-pinocarveol and smaller amounts of numerous other monoterpenes and monoterpene derivatives (α-pinene, myrcene, terpinene, thymol, camphor and trans-isocarveol). (1R,2S,3S,4S)-1,2,3,4-tetrahydroxy-p-menthene, □-sitosterol, □-spinasterol, 4-isopropyl-1-methyl-4-cyclohexene-1,2,3-triol, quercetin, trans-cinnamic acid and L-rhamnose, Na, K, Mg, and Zn, monoterpene hydroperoxides, trypanocidal, flavone glycoside, triterpenoid glycosides, maleic and succinic acids, oxalic acid oxidase and glucose are also present. Fatty acids are made mainly from butyric acid, hydrocarbons, cymol, chenopodin, choline, betaine, nitrate and calcium oxalates.
- **Pharmacological action**: It is vermifuge and carminative. It is used for asthma, colds, fevers, gastrointestinal pains, headaches and menstrual pains. The essential oil has acaricidal and insecticidal effects, nervine, anti-rheumatic, anthelmintic, antifungal, antioxidative activities and is a tonic. The oil has exhibited antimycotic activity against the dermatophytes *Trichophyton mentagrophytes* and *Microsporum audouinii*. An infusion of this plant has antispasmodic, stomachic and tonic properties. It has also been recommended for nervous and menstrual disorders. It is an anti-wormal in goats. The oil is abortifacient and its ointment is effective against ringworms.
  The infusion of plant tops is an abortifacient, and a leaves infusion is digestive, stimulant and stomachic. It is also diuretic, antispasmodic and emmenagogue. The essential oil is tonic and has anti-malaria, anti-hysteria,

anti-rheumatic, antioxidant and anti-catarrh activities. The plant is also used as a digestive remedy and is taken to settle colon colic, as an abortive, a sedative and to cure stomach pains. It is believed to prevent flatulence and to treat amenorrhoea, dysmenorrhoea and cholera.

- **Other uses**: The oil is a botanical pesticide and is active against insects, acari, and fungi. It is also used in veterinary medicine. An oil infusion is used against intestinal worm infections in goats, and the ointment of the oil is used against ringworm. The essential oil is used mainly against roundworm and hookworm and for soil nematode control. The young and tender shoots are cooked and eaten. It is used as a spice and a flavouring agent. Its major use is as a fragrance component in creams, perfumes and soaps. It is also used as a flavouring in soups.

  The oil is used as a traditional protectant for stored beans and groundnuts. It is a well known type of drink and has medicinal properties. The seeds are edible, and the shoots, stalks, and leaves can be eaten as leafy vegetables.

- **Caution**: The plant and its oil are poisonous in large doses and should be used only under strict medical supervision. In the essential oil is the monoterpenoid ascaridole, which is a potent anthelmintic, but which is also responsible for human fatalities. Overdoses lead to toxic side effects, including headaches, vomiting and abrasions in the kidney and liver. It is advised that the oil, when taken as a purgative, is better in conjunction with sodium sulphate since this reduces its toxicity.

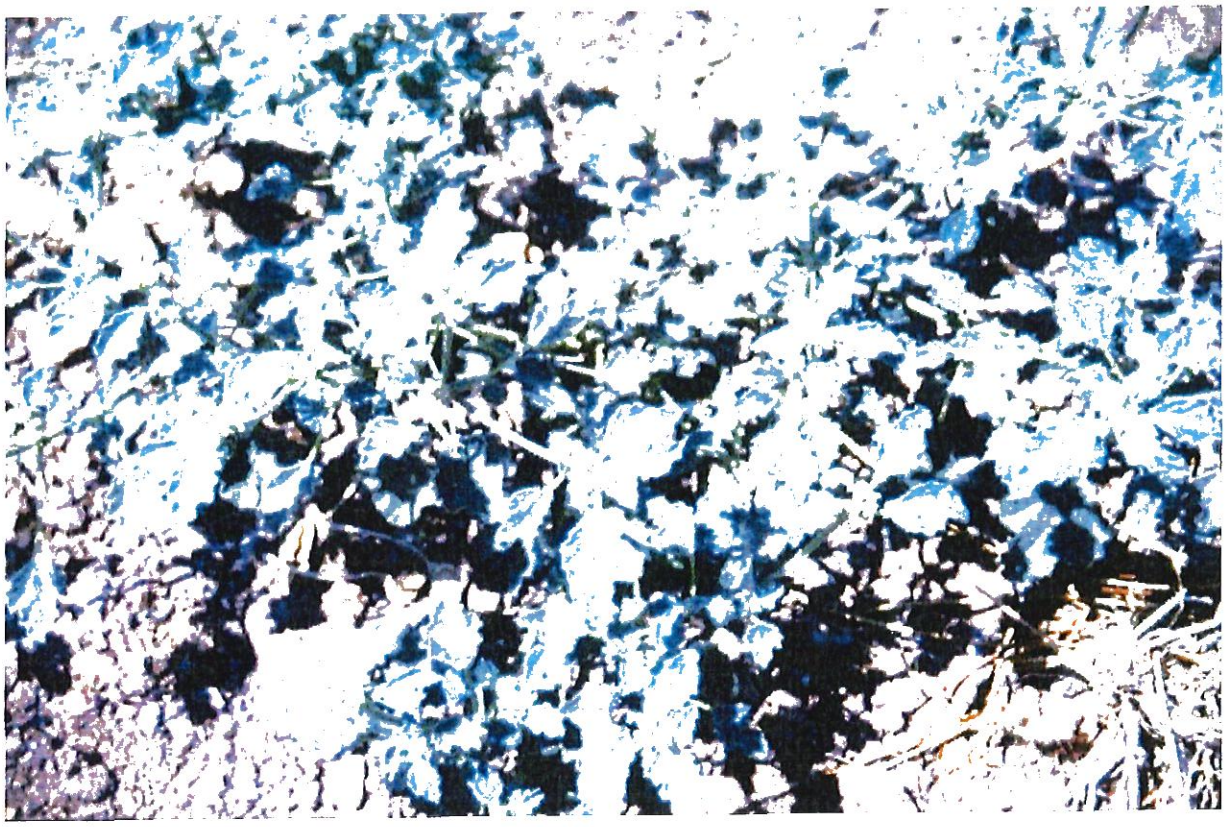
Plants at seeding stage

- **Arabic name**: Mentab, Sentar, Rumram, Ghbeirah, Khabeitha
- **Scientific name**: *Chenopodium murale* L.
- **Common name**: Nettle-Leaved Goosefoot, Australian-Spinach, Salt-Green, Sowbane
- **Family name**: Chenopodiaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves, seeds, the whole plant, oil of the flowering tips and fruits.
- **Active constituents**: Volatile oils, geraniol, methyl salicylate, saponins and triterpenoids, flavonoids, the alkaloid piperine, and flavonol triglycoside. The seeds are rich in mineral elements (sodium, potassium, calcium, magnesium, phosphorus, iron, copper, zinc and manganese), fatty acids, vitamin C, carotenoids, nitrates, oxalate and oxalic acid. In leaves, lipids including phytosterols, phytosterol esters, free fatty acids, alkaloids and flavonoid glycosides are present.
- **Pharmacological action**: It is antibacterial, cytotoxic, nutritive, diuretic, a mild purgative, emollient, anthelmintic, a tranquillizer, a liver tonic, sweet, acrid, digestive, carminative, aphrodisiac and laxative. It is used in vitiated conditions of pita, peptic ulcers, dyspepsia, flatulence, seminal weakness, haemorrhoids, cardiac disorder, ophthalmopathy, spleenopathy, pharyngopathy and general debilities.
- **Other uses**: The leaves are edible. The plant was cultivated for bread by the British and Indians because of its highly nutritive seeds. Its seeds were also made into butter. It is rich in vitamin C, and is used as a salad plant and in medicine. It is one of the most common weeds, but becomes poisonous when it accumulates nitrate.
- **Caution:** It is a nitrate-accumulating weed. Under certain conditions, nettle-leaf goosefoot may contain toxic amounts of oxalate or nitrate compounds. Sheep and other grazing animals are affected. Nitrate is reduced in the rumen to nitrite, which is toxic for ruminants at 0.5 g/kg (a single oral dose). The nitrate does not volatilize and therefore dried forages are toxic. The iron in the haemoglobin is oxidized from ferrous to ferric iron. This results in the formation of methaemoglobin that reduces oxygen-carrying capacity. Toxicity symptoms include agitations, dyspnoea, weak heart pulses, sudden death, muddy mucus membranes, a brownish appearance to blood, significant amounts of methaemoglobin, and high nitrate concentration in serum, ocular or other body fluids.

- **Arabic name**: Ghbeirah, Rumram, Rejl Al-Batta, Rejl Al-Waza
- **Scientific name**: *Chenopodium vulvaria* L.
- **Common name**: Stinking Goosefoot, Stinking Motherwort, Notchweed.
- **Family name**: Chenopodiaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves, seeds, and aerial parts.
- **Chemical constituents**: Nitrate, oxalate, trimethylamine, osmazome, potassium nitrate and emanated urea.
- **Pharmacological action**: The plant is antispasmodic, a cardiac stimulant, and emmenagogue, and is supposed to cure barrenness through inhalation, menstrual obstructions, colic, worms, fungal infections and acute gout. Its leaves are used for hysteria and neural problems in women's ailments, and their infusion is used for nervous debilities, stomach aches and intestinal colic. The plant has penicillin effects and is a laxative, diuretic, and sedative, and cures liver and bile diseases, rheumatism, eczema, bites and stings. Its aerial parts have analgesic and vermicidal effects and cure flatulence and diarrhoea.
- **Other uses**: The plant is a common weed and is also regarded as a wild flower.
- **Caution**: The plant becomes poisonous when it accumulates nitrate; toxicity symptoms include excitation in sheep, dyspnoea, a weak heart pulse, diarrhoea and death.

- **Arabic name**: Qrainah Zahriya, Qrainah Urjuwaniya, Ghorayra'i
- **Scientific name**: *Chorispora purpurascens* (Banks et Sol.) Eig.
- **Common name**: Chorispora
- **Family name**: Cruciferae / Brassicaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant.
- **Chemical constituents**: Sulfur, 3-butenyl isothiocyanate, 4-hydroxybenzyl isothiocyanate, and 5-vinyl oxazolidine-2-thione.
- **Pharmacological action**: The plant is used for bronchial spasms, whooping cough, asthma and cures boils.
- **Other uses**: A wild flower and common weed.
- **Caution**: No reports.

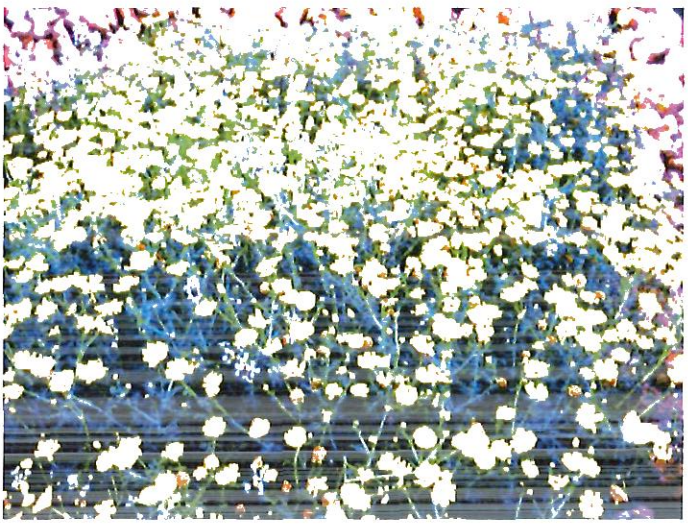
- **Arabic name**: Ghbeirah
- **Scientific name**: *Chrozophora plicata* (Vahl) A.Juss. ex Spreng.
- **Common name**: Argassi, Nilakari, Safi
- **Family name**: Euphorbiaceae.
- **Growth habit**: Herb
- **Life cycle**: Annual to short-lived perennial herb
- **Part/s used**: Stem, roots, and the whole plant.
- **Chemical constituents**: Flavonoids. The roots contain xanthone glycosides and a chromone glycoside. Seeds give an oil rich in linoleate, linoleic, oleic and saturated acids. The total linolenic and linoleic acid content varies from 60–75%. The plant contains 9% tannin, as well as luteolin aglycone, traces of α-glucosidase, new and rare acylated flavone glycosides from the aerial parts and quercetin 3-O-β-glucopyranoside.
- **Pharmacological action**: The pounded stems or whole plants are applied to wounds to improve healing. An infusion of the seeds and leaves is taken as a laxative. The plant is also used against jaundice and to purify the blood. The ash of the root is bechic, the leaf is depurative and seeds are cathartic. The leaves also contain flavonoids.
- **Other uses**: A red and a blue dye are obtained from the petals, fruit and sap; these are used for colouring liqueurs, wines, pastries and Dutch cheeses. Camels graze the plant. The fruits yield a purplish-blue dye, which is used to dye mats. The plant is a blood purifier. An anti-ulcer effect is provided by the chloroform extract of *Chrozophora plicata* leaves (600 mg/kg); the plant also possesses ulcer protective principles and flavonoids may be responsible for its gastroprotective activity.
- **Caution**: Fresh shoots are toxic to many grazing mammals, though camels eat it. The plant is not browsed by most stock, except occasionally by sheep and goats, as it causes vomiting and diarrhoea. When fresh shoots of *Chrozophora plicata* were force-fed to Nubian goats and desert sheep, it caused all animals to die, and the main signs of poisoning were salivation, dyspnoea, bloating, loss of appetite, dullness, diarrhoea, paralysis of the hind limbs and lateral deviation of the head and neck. The main lesions were haemorrhages in the lungs, heart and kidneys, pulmonary cyanosis and edema, and serious atrophy of the cardiac fat and renal pelvis. Haematological changes indicated the development of anaemia.



- **Arabic name**: Ghbeirah, Faqoos Al-Himar
- **Scientific name**: *Chrozophora tinctoria* (L.) Raf.
- **Common name**: Croton
- **Family name**: Euphorbiaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves
- **Chemical constituents**: Diterpenoids, triterpenoids, flavonoids and chromone glucosides, alkaloids, coumarins, chromones xanthones, diterpenoids and phenylpropanoid glycosides.
- **Pharmacological action**: It is cathartic, emetic, bowel cleansing, promotes evacuations by stool, purgative, febrifuge, and alleviates fevers, including malaria and warts. The leaves' juice or decoction is used for chest burning and has stomachic, antimicrobial, anticancer, antioxidant, anti-plasmodial, anti-diabetic and anthelmintic properties and has phytotoxic activity.
  In folk medicine, the juice of fresh or dry leaves with oil is a cure for wounds and pimples, and is emetic in cases of fungus poisoning.
- **Other uses**: It is a common summer weed, mainly in sesame fields. There is some information on its use as a food colouring, since the plant species was traditionally used as a source of pigments.
- **Caution**: Its juice is toxic, and small hairs and dust on the plant's aerial parts may cause allergic reactions in the respiratory system, primarily for asthmatics.

- **Arabic name**: Chrysanthemm, Busbas
- **Scientific name**: *Chrysanthemum coronarium* L.
- **Common name**: Crown Daisy, Jericho Daisy, Garland Daisy, Chop-Suey Greens, Common Daisy
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Essential oil, leaves, flowers, bark, and seeds.
- **Chemical constituents:** Sterol compounds, volatile components such as □-pinene, ocimene, 2-hexenal, 1,6,10-pentadecatriene, borneol acetate, germacrene, □-farnesene, terpenes, sesquiterpene lactones, pyrethrosin derivatives, polyphenol oxidase, hydroxyanthroquinones, flavonoids, guaianolide derivatives, pyrethrin 1 and 2, resin, glycosides, alkaloids. Essential oil, the main compounds of which include camphor, □-pinene, □-pinene and lyratyl acetate. The blue colour of the oil is due to the presence of chamazulene, quercetin and its glycosides, rutin, isoquercetin, ascorbic acid and carotenoids.
- **Pharmacological action**: The plant's extract is used as a natural skin whitening material with antimicrobial and antifungal properties. The seeds' protein is mutagenic and has an acrid bitter taste. The plant is an antioxidant, expectorant and stomachic, and is also useful in preventing cardiac and vascular diseases. It is used with black pepper in the treatment of gonorrhoea, is aromatic and bitter, and is a substitute for chamomile (*Chamaemelum nobile*). The bark is purgative, and is used in the treatment of syphilis. An infusion of flowers acts against intestinal parasites.
- **Other uses**: The aromatic flowers are chamomile substitutes, young stems are eaten raw after the removal of the leaves, and the flowers are slightly astringent. The plant is popular when eaten with beef, fish, shellfish and soups. It can be used as a stir-fry ingredient or in soups and stews. The plant is used as a leafy vegetable in China and Japan. It is highly valued in Oriental food for its strong flavour. The leaves are cooked like spinach, used in soup, or eaten raw in salads.
- **Caution**: No reports.

- **Arabic name**: Busbas, Ward Assfar
- **Scientific name**: *Chrysanthemum segetum* L.
- **Common name**: Corn Marigold, Mary Gowles, Bigold, Buddle, Boodle, Ruddles, Yellow Ox-eye.
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant, leaves, vegetative parts, flowers, bark, and seeds.
- **Chemical constituents**: Sesquiterpenes, lactones, and pyrethrins.
- **Pharmacological action**: The plant is an astringent, aromatic, diuretic, stomachic and vermifuge. It is used in treatments for night sweats, fever, spasms, contusions, wounds, simple sores, ulcers, chronic vomiting, supportive discharges and draining, burns, and all breaches of the skin's surface.
- **Other uses**: It is a wild flower. The leaves are edible after being cooked.
- **Caution**: Extreme caution is advised since it causes allergic reactions and because the plant is potentially toxic.



Plant population

- **Arabic name**: Hendeba, Ellik, Ellit, Hendeba Barri, Seiris, Chicory
- **Scientific name**: *Cichorium intybus* L.
- **Common name**: Chicory, Wild Succory, Common Chicory, Blue Chicory
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Flowers, roots, leaves before flowering, the flowering plant, and the whole plant.
- **Chemical constituents**: Amino acids, mineral salts, minerals (sodium, calcium, magnesium, potassium, iron and phosphorus) and microelements, sugars, lipids, vitamins A, B_1, B_2, C, K and PP, inulase, bitter hetrosile, inulin, bitter materials, bitter latex, cellulose, nitrogenous substance, fats, mucilage materials, glycosides, *cichorine, antabine, choline, resin and pectin. Lactucin and lactucopicrin, sesquiterpene lactones, dextrin,* polydextrose, and chicory fibres are also present. In addition, there are volatile oils, oligosaccharides, sesquiterpene lactone, 3, 4-dihydrolactucin, kaempferol, isoscutellarein, cichorine, umbelliferone, lupeol, lupeol acetate, □-sitosterol, and □-sitosterol-3-O-glucoside. It also contains inulin glycosides, apintein glycoside (bitter taste), proteins, tannin, organic acids, and carotene.
- **Pharmacological action**: The plant is used for tumours, diabetes and inflammation. It is also useful for thirst, headaches, ophthalmia, pharyngitis, distended spleen, fever, vomiting, diarrhoea, malaria and the prevention *and treatment of inflammatory bowel disease.*

  The dried roots have a pungent and bitter taste, and are used as an appetizer, for stomach aches, and are a tonic, hypoglycaemic, mild diuretic and laxative.

  A plant decoction is used for liver disorders, gallstones and kidney stones, and inflammations of the urinary tract. It is alexiteric, digestive, stomachic and emmenagogue. It is used for asthma, cancer, dysmenorrhoea, *impotence, insomnia, splenitis, and tachycardia. The plant is effective against disorders of the kidney,* liver, urinary canal and spleen. In addition, it is analgesic, demulcent, febrifuge, hepatic, and cures dyspepsia and jaundice.

  Chicory root contains volatile oils effective at eliminating intestinal worms and that are toxic to internal parasites. It is tonic, and is used for gastroenteritis, sinus problems, cuts and bruises. Inulin is used for *diabetes and constipation and it is of anti-hepatotoxic potential.*

  In folk medicine, the plant is used as a sedative, laxative, cholagogue and febrifuge for typhoid and gastric pain. A fresh leaves decoction is taken orally for fever, gas trouble, and body swelling.

It is an appetizer, stimulant, bitter and useful for the stomach. Its anti-diaphoretic activity helps to calm neural tension and indigestion. It is used for cholecystitis, nephritis, bile problems, splenopathy, gout, edema, and skin diseases. It is anti-cholesterol and anthelmintic. A root decoction is used as a poultice. A leaves and roots decoction is antiseptic and used for digestion problems and disorders.

- **Other uses**: Its leaves are used fresh in salads and other food, or can be cooked. A section of the dried roasted roots of *Cichorium intybus* with a long taproot is used as a coffee substitute. It is an edible plant in either its fresh form or cooked as a vegetable in soups and pastes, and its oil is used in cakes. Feeding animals with the chicory root product improves the quality of their meat and prevents or reduces female and male animal taint, improving the health status of these animals by reducing infections by pathogens in the gastrointestinal tract and reducing animal-caused odours in general. It is a wild flower with pretty azure flowers.
- **Caution**: The plant's toxicity to goats leads to anorexia, thirst, weakness, motion inability and death in some cases.

The plant is grown in the field as a leafy vegetable crop

- **Arabic name**: Hendeba'I, Ellik, Ellit, Khrewi'i
- **Scientific name**: *Cichorium pumilum* Jacq.
- **Common name**: Dwarf Chicory
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Roots, leaves before flowering, the flowering plant, and the whole plant.
- **Chemical constituents**: The plant is rich in potassium and calcium. It contains sugars (inulin, fructose and glucose), intibin glycoside (which gives it its bitter taste), vitamins B_1, B_2, C and PP, choline, protein, pectin, tannin, organic acids, carotene, mineral elements of sodium, calcium, magnesium, iron and phosphorus and also microelements. It contains fats, carbohydrates, fibres, proteins and cholesterol.
- **Pharmacological action**: The plant helps in reducing tension and nervousness, is hypoglycaemic, and helps the function of the digestive system. It cures diseases of the stomach, intestine, liver, gallbladder, kidney and kidney stones. It is antimicrobial and antiphlogistic, diuretic, induces yellow bile, improves cardiac functions, reduces excessive sweetness, and helps the body remove cholesterol and other harmful substances.
- **Other uses**: Young leaves are used in salads, and either fresh or cooked as a vegetable dish. The boiled water of the plant's dried roasted roots is a coffee substitute.
- **Caution**: The plant's toxicity to goats leads to anorexia, thirst, weakness, an inability to move, and death in some cases.

- **Arabic name**: Terphas Zahri, Halook, Tha'inon
- **Scientific name**: *Cistanche salsa* (C.A. Mey) Beck
- **Common name**: Pink Broomrape
- **Family name**: Orobanchaceae
- **Growth habit**: Parasitic herb
- **Life cycle**: Annual
- **Part/s used**: Stolons and stem.
- **Chemical constituents**: Volatile oils, non-volatile phenylethanoid glycosides, iridoids, lignans, alditols, oligosaccharides, a monoterpene and polysaccharides. The essential oil includes alkanes, alcohols, aldehydes, and some heterocyclic compounds. In addition, acetylacteoside, acteoside, tubuloside, isoacteoside, echinacoside, cistanosides, alpha and beta-unsaturated ketone of phenl-2-propenoyl, phenylethanoids, and phenylpropanoid glycosides are also present.
- **Pharmacological action**: The plant has antioxidative activity, neuroprotective activity in human cells, has an anti-osteoporotic effect, provides antibody production in human lymph node lymphocytes, is antinociceptive and has anti-inflammatory properties. *Cistanche salsa* extracts enhance antibody production in isolated human lymph node lymphocytes *in vitro*. The plant is the main source of the drug cistanche. Echinacosides are an immune booster, immune regulator, and a remedy for colds and flu. Cistanche has antioxidant abilities and could also help soften the effects of ageing. It is applied as a tonic and/or in a formula for chronic renal

disease, impotence, female infertility, morbid leucorrhoea, profuse metrorrhagia, and senile constipation. *C. salsa* extract can accelerate the proliferation of fibroblasts and promotes the production of neurons by accelerating the growth of the neurites. It also has properties including: the prevention of damage caused by cerebral ischemia-reperfusion; protection against apoptosis of the CA1 region of the hippocampus; and increasing the number of neurotransmitters such as dopamine, noradrenaline, and serotonin (5-HT) in the rat brain. The acteoside-rich fraction of *C. salsa* extract can inhibit reactive oxygen species, prevent DNA damage, enhance superoxide dismutase activity and prevent lipid peroxidation. Acteoside has an extremely strong antioxidative effect that is 15 times stronger than resveratrol and five times stronger than vitamin C. *C. salsa* extract can activate lymphoid cells and increases the killed rate of cancer cells. The monoterpene is an anti-osteoporotic compound.

- **Other uses**: A wild flower and parasite. It is widely used for firewood.
- **Caution**: No reports.

- **Arabic name**: Zanboukh Al-Ard, Thainon Asfar, Tarthuth, Halouk, Dnon, Trafs
- **Scientific name**: *Cistanche tubulosa* (Schenk) Wright
- **Common name**: Desert Hyacinth
- **Family name**: Orobanchaceae
- **Growth habit**: Parasite
- **Life cycle**: Annual
- **Part/s used**: The whole plant
- **Chemical constituents**: Alkaloids, coumarins, saponins, apigenin, terpenes, tannins, acteoside, echinacoside, cistanoside, campneoside II, phenylethanoid glycosides, iridoid glycosides, apigenin glycoside, monoterpenoid adoxosidic acid, 8-epiloganic acid, geniposidic acid, mussaenosidic acid, (+)-syringaresinol-O-□-D-glucopyranoside, 8-hydroxygeraniol, mussaenosidic acid and (+)-syringaresinol-O-□-D-glucopyranoside. In the dry bulbs, □-sitosterol, D-mannitol, daucosterol, succinic acid, D-glucose and D-fructose are present.
- **Pharmacological action**: The plant prevents senile dementia, and inhibits the aggregation of blood platelets. It is believed to be important in the treatment of male impotence, seminal emission, the general lassitude of the loins and knees and constipation. None of these, however, are supported by scientific evidence. High doses of the chemical compound acteoside, isolated from *Cistanche tubulosa*, affected biomarkers related to ageing in mice. It may delay ageing, probably because of the antioxidant action since it enhances immunity in ageing mice. Anti-fatigue properties have been shown in mice. In addition, *C. tubulosa* extract exhibits hypocholesterolemic activity in diet-induced hypercholesterolemia mice. It appeared to decrease muscle damage and delay the accumulation of lactic acid. Externally, the plant is used as an astringent for wounds and in curing porous scarfskin or skin infected by psoriasis. It enhances the sex function, available for essence and blood, and is commonly used in the treatment of male impotence, infertility (both sexes), metrorrhagia, vaginal discharge, powerlessness in bones and muscles, depleted blood, jaundice, constipation, improving renal function, enhancing memory, anti-senile dementia, regulating the immune function, acting on large intestine channels, kidney tonic, replenishing vital essences and blood, and moistening the bowels to relieve constipation. It is used for diarrhoea and skin sores.
  In folk medicine, the plant is widely consumed as a precious medicinal herb in traditional Arab and Chinese medical practices for the treatment of kidney deficiencies, female infertility, morbid leucorrhoea, neurasthenia, and senile constipation induced by colonic inertia.
  Some other evidence for the medicinal importance of different *Cistanche* species has also been reported. The polysaccharides isolated from *Cistanche deserticola* have *in vitro* immunomodulatory effects in high doses, promoting the phagocytic and secretory functions of the phagocytic ability of peritoneal macrophage.

Cistanche salsa extracts enhance antibody production in isolated human lymph node lymphocytes *in vitro*. Anti-fatigue properties have also been shown in mice. *C. deserticola* extracts appeared to enhance the swimming capacity of mice by decreasing muscle damage, delaying the accumulation of lactic acid and by improving energy storage. In a laboratory study in mice, it was reported that high doses of *Cistanches herba* extract significantly enhanced learning and memory, as demonstrated by the passive avoidance test and novel object recognition test. These results were determined to be the result of its action on the upregulating nerve growth factor.

- **Other uses**: The plant has always been used as food by people for nourishing purposes. The thick fleshy stem is boiled and eaten, and newly emerged young stems are used in food as asparagus substitutes. The plant's powder is added to meat dishes as a spice. The plant is a wild flower and parasite.
- **Caution**: It has been mentioned in a few references as being poisonous.

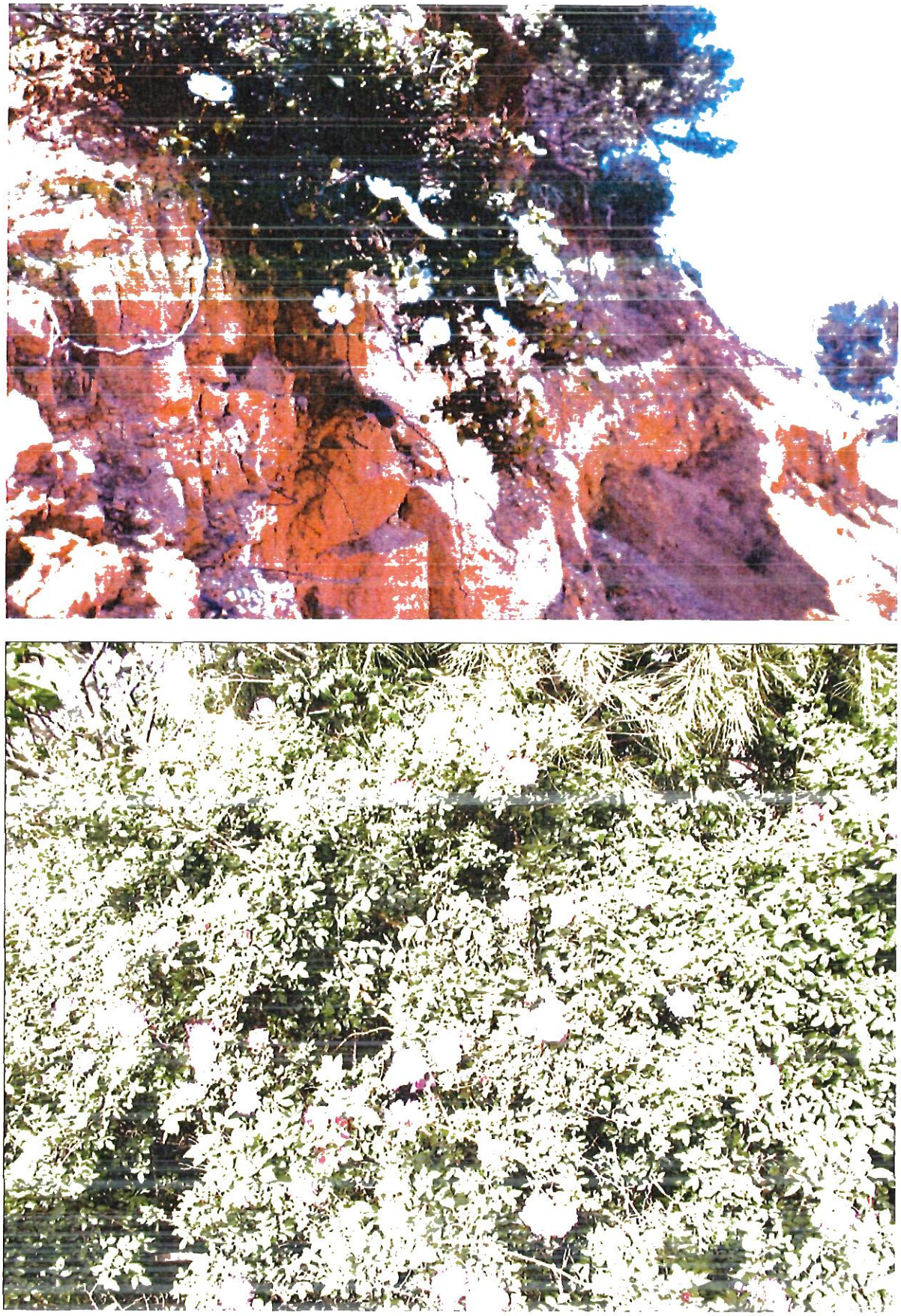
Cistanche lutea

Al-Azraq historical palace

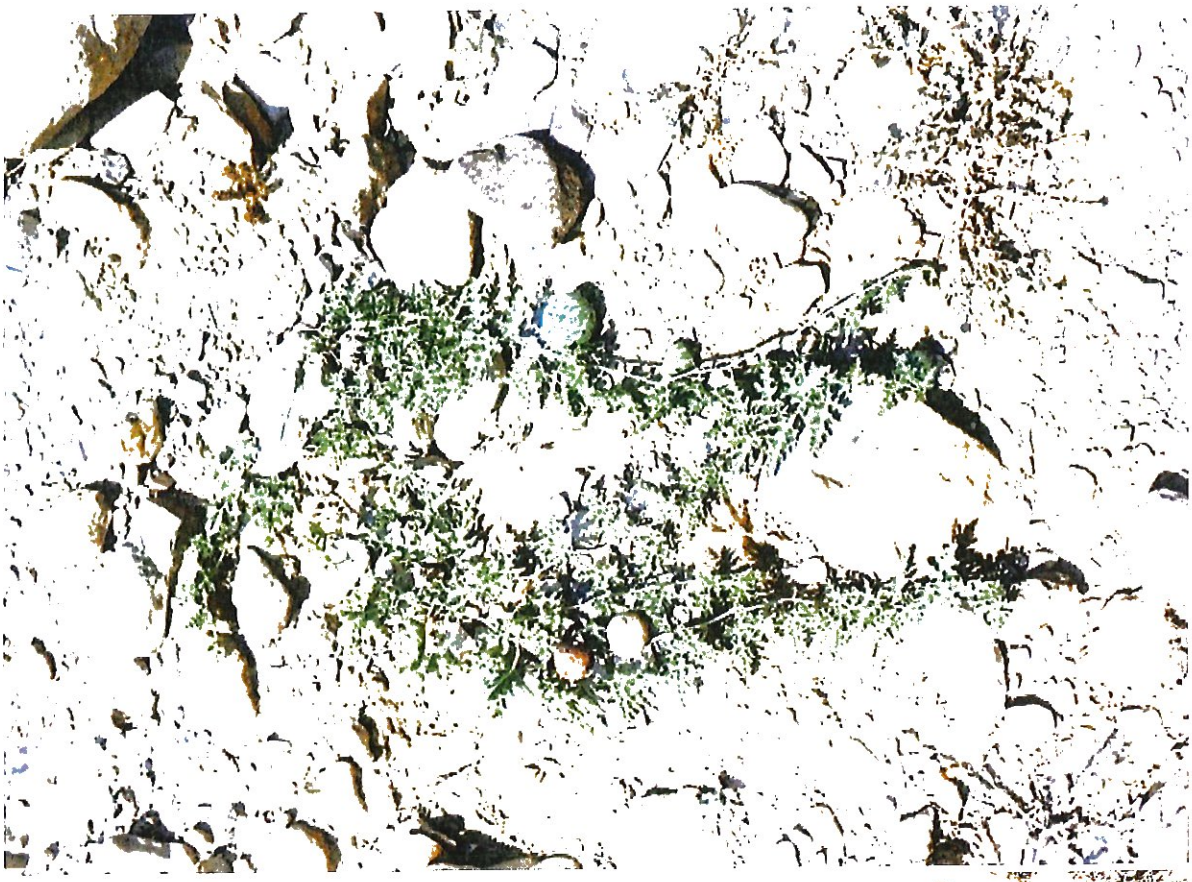
- **Arabic name**: Quraida, Quraida Hamra, Lepad Ahmar
- **Scientific name**: *Cistus creticus* L.
- **Common name**: Pink Rock Rose, Myrrh, Soft Hairy Rock,
- **Family name**: Cistaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Leaves, flowers, seeds, oil and the whole plant.
- **Chemical constituents**: The leaves' essential oil's main components include alpha-cadinene, delta-cadinene, viridiflorol, bulnesol, ledol, alpha-copaene, beta-selinene, cubenene, manoyl oxide and 13-epi-manoyl oxide, phenols and resin.
- **Pharmacological action**: It strengthens the autoimmune and immune systems. The resin has been used for millennia to produce incense, for dermatitis, dermatological disorders and ulcers, and it inhibits the influenza virus *in vitro*. The plant is exported to Egypt for medicinal purposes.
- **Other uses**: The plant is a source of a nice smelling gum. It is an ornamental and a wild flower.
- **Caution**: It is not for use by pregnant women. It may cause mild skin and eye irritation.

Plants with different flower colours

- **Arabic name**: Quraida, Quraida Baida'i, Lepad Abyad
- **Scientific name**: *Cistus salvifolius* L.
- **Common name**: White Rockroses, Sage-leaved Rock Rose
- **Family name**: Cistaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Leaves and seeds.
- **Chemical constituents**: Phenols and resin.
- **Pharmacological action**: The plant is used for colds, diabetes, stomach pains, and to strengthen the autoimmune and immune systems. Its resin has been used for millennia to produce incense, is used for dermatitis, dermatological disorders and ulcers, and it inhibits the influenza virus *in vitro*.
- **Other uses**: A wild flower.
- **Caution**: No reports.



Showing plants natural habitat



The fruit

- **Arabic name**: Hanthal, Alqam, Murr, Tofah Murr, Shirry, Hadj, Hararit Al-Sahra
- **Scientific name**: *Citrullus colocynthis* (L.) Schrad.
- **Common name**: Colocynth, Bitter Apple, Wild Ground
- **Family name**: Cucurbitaceae
- **Growth habit**: Creeping Herb
- **Life cycle**: Annual, Biennial or Perennial
- **Part/s used**: Peeled fruits, dry fruit bulb with no seeds, seeds, and roots.
- **Chemical constituents**: Glycerides, triacylglycerols, oil rich in oleic, linoleic, palmitic, and stearic acids, cucurbitacin glycosides, flavonoids quercetin and kaempferol, carbohydrates, amino acid and organic acid. All parts contain fructosans, inositol, glucose, fructose, and unknown sugar, malonic acid, fatty acids (lauric, linolenic, myristic, palmitic, hexadecenoic, stearic, oleic, linoleic, and arachidic), aliphatic alcohols, and essential oil containing methyl heptenone, citronellal, citronellol, phenyl ethyl alcohol, methyl eugenol, 3 unidentified compounds, citrullonol, hydroxyketotetracyclic triterpene, arginine, glycoside hydrolyzed into elaterin (cucurbitacin E), elatericin B (cucurbaticin I), and dihydroelatericin B (cucurbitacin L). Urease, phenolic acids, caffeic, chlorogenic, ferulic, p-hydroxybenzoic, and m-coumaric are also present, as are gum and mineral elements.
  The plant contains fatty oil and alkaloids. The seeds contain oils (15-20%), alkaloids, alcohol (citronellol), fixed oil, resin, pectin, saponin, colocynthin from bitter sugars and cardio sugars such as phytosterol. Internal fruit pulp contains bitter substances belonging to glycosides known as colocynth in addition to cucurbitacin-C, resins, pectin and saponin. An alcoholic material called citronellol was also isolated. Colocynthidin and elaterin are also present.
- **Pharmacological action**: The plant is anti-diabetic, anti-inflammatory, anti-rheumatic, has dermal and eye uses, is purgative, cathartic, anthelmintic, diuretic, emetic, abortive, a drastic hydrogogue, expectorant, alliterative, analgesic and laxative. It is used in a herbal composition for HIV and AIDS treatment, has an insulinotropic effect, and is prepared in a herbal formulation for preventing dental plaque and gingivitis, dentition problems, constipation, animal scabs, as an insect repellent, biliary diseases, cancer, fever, gout, neuralgia, sciatica, splenomegaly, worms, wounds, as a lotion for tired (swollen) feet, gastric troubles, and jaundice. Suppositories made from the pulp are effectual for sick intestinal glut persons, colic, a drastic purge, scorpion stings, snake and insect bites, itching, dropsy, tumours, fistulae, arthritis, stomach aches and

as an antiseptic. The plant is an excitant of the nervous system, stimulates stomach and intestine motion to ease digestion, and reduces gas accumulation. It is useful for headaches, paralysis, back pain, ear pain and leprosy. Colocynth fat is used for massages. Seed oil is useful for skin diseases and scabies, an insect and tick repellent on farm animals and birds, and acts as an insecticide. It is also used in a poultice against colds and rheumatism. A fruit pulp insertion in the vagina causes abortions in pregnant women and the plant extract is used against skin diseases in camels.

- **Other uses**: A feed plant for horses and can be made as cups for milk. The oil might be of some potential use for human consumption and/or in animal feed. Dried fruits are an effective insecticide, especially against mites and beetles. The plant is a wild flower.
- **Caution**: The plant is emetic in large doses, a gastrointestinal irritant and poisonous. Fruits cause unconsciousness if eaten and may lead to death due to containing cytotoxic cucurbitacins; young leaves are low in cucurbitacin content, but in old leaves and stems there is 1000-3000 mg cucurbitacins/kg plant material.

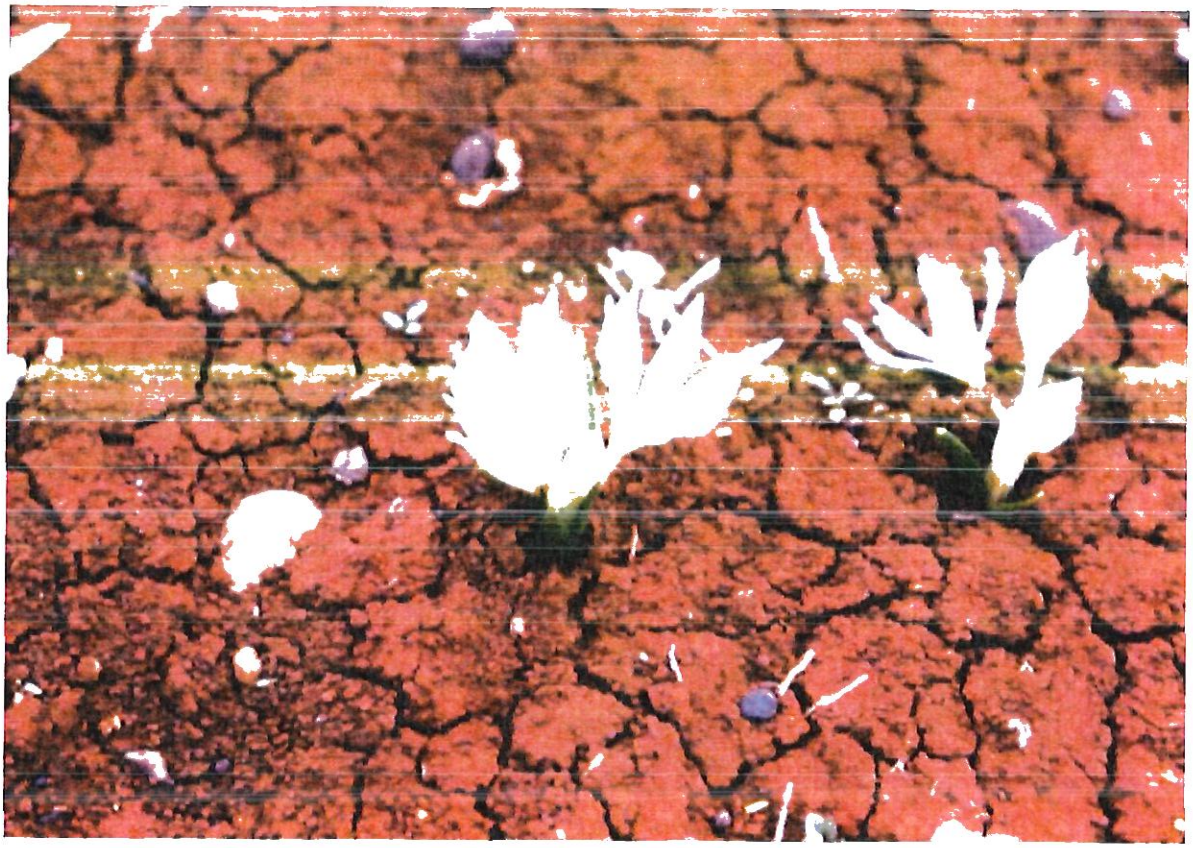
Poisoned sheep showed signs of diarrhoea, anorexia, dyspnoea, and loss of condition, which correlated well with the pathology findings. There was also an increase in the concentrations of creatinine, urea and potassium and a decrease in total protein and calcium in the serum and blood sugar level of the poisoned sheep. The manufacturing and use of colocynth tar and related compounds may be a health hazard and could lead to the development of cancer. The dried pulp of the fruit contains a powerful cathartic hydragogue and thus is used only by experts. The plant is never to be given to pregnant women and children infected by intestinal inflammations and ulcers. Toxicity symptoms on humans and animals due to fruit intake include stomach, intestine and nervous system agitation, disorders, amoebiasis, biopsies, severe diarrhoea and intestinal convulsions because of the colocynthin.

- **Arabic name**: Olaiq, Klemtis, Thayan, Yasmin Baladi, Bahjet Al-Musafer, Lehyat Al-Rajul Al-Ajooz, Mahd Al-Athra'a, Zahra Geldia, Komeh Zahria, Kookh Al-Athra'a, Mala'a Sameh, Thian, Yasmin Al-Barr
- **Scientific name**: *Clematis recta* L.
- **Common name**: Clematis, Upright Virgin's Bower, Flammula Jovis
- **Family name**: Ranunculaceae
- **Growth habit**: Climber shrub
- **Life cycle**: Perennial
- **Part/s used**: Roots, stems, flowers, and leaves.
- **Chemical constituents**: Essential oil, saponins, resins, acids, phytosterol, clemantol, phenolic glycosides, fredelin, anemone, alkaloid, clematine, a violent poison, anemonin, magnoflorine, beta-setosterol, palmatic acid, vanillic acid, isolareserzinole, and dicholesterol.
- **Pharmacological action**: The plant has bactericidal and fungicidal activities. It is used for common colds, sinus congestion, migraines, paralysis, gout, rheumatism, sciatica and leucoderma. It is diuretic, anodyne and diaphoretic, and is useful locally and internally for syphilitic, cancerous and other foul ulcers, eye affections, gonorrhoeal symptoms and inflammatory conditions.
- **Other uses**: An ornamental plant, wild flower and bee plant.
- **Caution:** It is known to cause problems in animals. The ingestion of these plants, especially in large amounts, is expected to affect major body organs such as the liver, heart and kidneys. It is a genus in which some species may contain protoanemonins and ranunculin (precursor) in the fresh herb. It is allergenic because of its glycoside content. Toxicity symptoms include breathing difficulties in animals, inflammation, eye swellings, meagreness, gastroenteritis, abdominal pains, face bulging, inflexible muscles and death in cows. It is well known as a cause of chronic skin burns and permanent marks on the arms that may be considered as decorations and male characteristics. Macerated leaves and flowers cause eye issues and pharyngitis, increasing the flow of tears and coughing. If placed on the skin it causes inflammations and utricles.

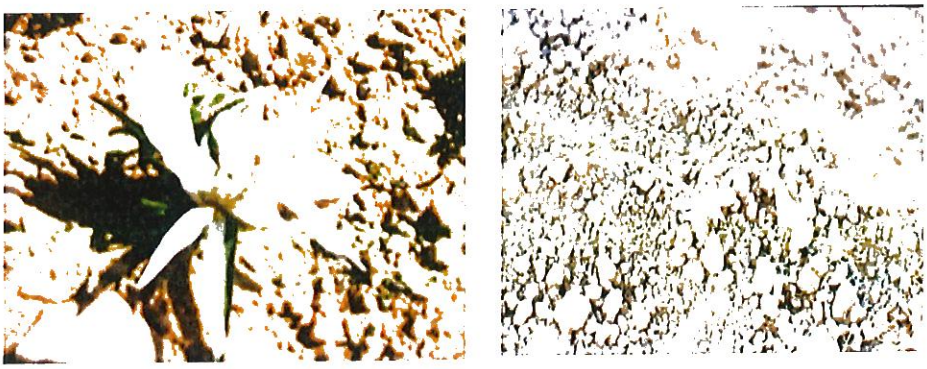
  Only dried parts are authorized for use, if they are proven by analysis not to contain aristolochic acid. Clematis species are not known to contain aristolochic acid, however *C. armandi* may be described as an *Aristolochia* species. (1U) protoanemonin is converted into the non-toxic anemonin through drying.

- **Arabic name**: Zafra, Shajarat Al-Wahsh
- **Scientific name**: *Cleome africana* Botsch.
- **Common name**: African Spider Flower, Spiderwisp
- **Family name:** *Cleomaceae* / Capparidaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used:** Leaves and the whole plant.
- **Chemical constituents**: Dammarane triterpenes, cytotoxic triterpenes, cleocarpanol, cabraleahydroxy lactone together with stigma-4-en-3-one, lupeol, taraxasterol, [3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide], essential oil, fatty acids, benzyl isothiocyanate, stearic acid, linolenic acid, and 7-1actone.
- **Pharmacological action**: The plant is widely used as a common folk remedy in the Middle East for healing many illnesses such as inflammation and rheumatism. It possesses activity against the P388 leukaemic cell line. The plant's extract has antibacterial activity against different species of multi-drug resistant bacteria including gram-positive and gram-negative bacteria. Leaves may be crushed to make a decoction that is drunk to cure diseases such as scurvy. Leaves are boiled and marinated in sour milk for 2-3 days and then eaten as a nutritious meal, which is believed to improve eyesight, provide energy and cure marasmus. It is a highly recommended meal for pregnant and lactating women. Some species that belong to the same genus have antimicrobial, anti-diabetic, analgesic, immunomodulatory, anti-inflammatory, antioxidant, genotoxic, anti-allergic, antihistaminic, antifungal, antihepatotoxic, and hypolipidemic activity.
- **Other uses**: The tender leaves or young shoots, and often the flowers, are boiled and consumed as a potherb, tasty relish, or in a stew or side dish. Fresh leaves are used as ingredients in other mashed foods, and dried leaves are ground and incorporated in weaning foods.
- **Caution**: No reports.

- **Arabic name**: Nuwar Al-Kelab, Serag Al-Ghol, Wada'a
- **Scientific name**: *Colchicum ritchii* R. Br.
- **Common name:** Egyptian Autumn Crocus, Egyptian Meadow Saffron
- **Family name**: Liliaceae / Alliaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Corms
- **Chemical constituents**: Alkaloids include 3-demethyl colchicone, cornigerone, the amidic biphenyl cyclohepladiene alkaloid (+)-colchibiphenyline, the homoaporphine type alkaloids (+)-multifloramine and kreysigine-N-oxide, (+)-szovitsamine-N-oxide, phenethyltetrahydroisquinoline type alkaloids, (+)-colchirine, the colchicine type alkaloid (-)-O-methylspeciosine, (*)-N-methyl-6-hydroxy-7,13-dimethoxytetra hydrophenethyl isoquinoline. In addition, gum, starch, sugar, tannins and resin are also present in bulbs.
- **Pharmacological action**: The corms are used for arteriosclerosis and rheumatoid joints. It stimulates more flexible blood vessels.
- **Other uses**: A wild flower.
- **Caution**: The plant contains toxic alkaloids.



- **Arabic name**: Mubsharet Al-Shita', Marj Al-Ard, Lahlah, Sorenjan, Nawasa
- **Scientific name**: *Colchicum* spp.
- **Common name**: Meadow Saffron, Autumn Crocus, Tragfopogon, Grrapogon.
- **Family name:** Liliaceae / Alliaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole plant, corm, roots, and seeds.
- **Chemical constituents**: The corm contains antimitotic colchicine alkaloid, sarcolisin, colchamine, starch, oily materials, and resines.
- **Pharmacological action**: The root and seeds are anti-rheumatic, cathartic and emetic. The corms are alterative, aphrodisiac, carminative and laxative. The plant is used for gout, Familial Mediterranean Fever (FMF), sciatica, rheumatism, liver and splenopathy. It contains the toxic alkaloid 'colchicine', which is used externally to relieve pain and as an antimitotic. Colchamine is used to treat skin cancers in the form of an ointment, and orally for stomach and gastrointestinal cancers. The plant improves the response of cell cancers to cures by radiation but is extremely dangerous.
  In folk medicine, the roots and seeds are used for arthritis and are emetic and cathartic.
- **Other uses**: The colchicine is used in agriculture in plant breeding by treating plants' seeds or seedlings to induce chromosome duplication. The plant is a wild flower.
- **Caution**: This is a dangerous plant. The leaves, corm and seeds are poisonous. It is thought to have been used to poison a number of victims in the 19th century. The plant should never be collected or used without complete medical supervision. Crocus bulbs in particular are highly toxic, as are the colchicine. Symptoms include marrow aplasia, infection leukopenia and haemorrhage (thrombocytopenia), hyponatremia, oliguria, and natriuresis, reminiscent of an ADH hypersecretion syndrome. In one case, the toxicity symptoms included nausea, vomiting and watery diarrhoea, arrhythmias, liver failure, pancreatitis, ileus, and bone marrow suppression with pancytopenia. Three years after recovering from the acute poisoning, the patient continued to complain of muscle weakness and intermittent episodes of hair loss. Colchicine poisoning can result in gastroenterocolitis followed by multi-organ dysfunction syndrome.
  The ingestion of this plant, especially in large amounts, is expected to have effects on major body organs such as the liver, heart and kidneys. The plant is known to cause problems in animals, including foaming at the mouth, gait anomalies, salivation, severe diarrhoea, broken teeth, reduced lactation, meagreness and death. Some species belong to a genus that may contain the phenethyl isoquinoline alkaloid colchicines.



Colchicum tauri

Colchicum sp.

- **Arabic name**: Lahlah steveni, Za'faran Al-Sohool, Aisalan
- **Scientific name**: *Colchicum stevenii* Kunth
- **Common name**: Steven's Meadow Saffron, Meadow Saffron, Autumn Crocus
- **Family name**: Colchicaceae.
- **Growth habit**: Herb
- **Life cycle**: Perennial.
- **Part/s used**: Leaves and corm.
- **Chemical constituents**: Colchicine, 2-dimethyl-(−)-colchicine and (−)-cornigerine, photoisomers of the type *β*-lumicolchicine and androcymbines of the types (−)-isoandrocymbine (5) and (−)-*O*-methylandrocymbine.
- **Pharmacological action**: The plant is AchE/BchE inhibitory and has DPPH radical scavenging activity. Colchicine and its natural analogues have been used clinically in the treatment of certain forms of leukaemia and solid tumours. Colchicine is used for the treatment of gout, and in a number of proinflammatory disorders, such as Familial Mediterranean Fever and Behcet's disease. It possesses potent anti-tumour activity.
- **Other uses**: Colchicine is also used in biological and breeding studies to produce polyploidy or a multiplication of the chromosomes in the cell nucleus, thus causing genetic changes to the tissues, which may be useful in agriculture.
- **Caution**: Plants belonging to the *Cholchicum* genus are known as dangerous poisons.

- **Arabic name**: Radeef, Rdoof
- **Scientific name**: *Commicarpus africanus* (Lour.) Dandy
- **Common name**: Comicarp
- **Family name**: Nyctaginaceae
- **Growth habit**: Shrub or sub-shrub
- **Life cycle**: Perennial
- **Part/s used**: Root and leaves.
- **Chemical constituents**: Mono and sesquiterpenoids, aromatics, aliphatic compounds, lactones, and nitrogen-bearing compounds in the floral and vegetative fragrances.
- **Pharmacological action**: The plant is used in jaundice treatment, may be anthelmintic against internal worms, and is a diuretic, laxative, febrifuge and expectorant. The leaves and roots are expectorants and febrifuges. The leaves are macerated and rubbed on the ganglion in order to remove it. The plant is also used for skin sores and is an antispasmodic.
- **Other uses**: It is a wild flower. The plant is also used in Ethiopia in cheese and butter fillings.
- **Caution**: No reports.

- **Arabic name**: Shookaran
- **Scientific name**: *Conium maculatum* L.
- **Common name**: Hemlock, Poison Hemlock
- **Family name**: Umbelliferae / Apiaceae
- **Growth habit**: Herb
- **Life cycle**: Biennial
- **Part/s used**: Leaves, stem, immature dry fruit, seeds, and roots.
- **Chemical constituents**: Isopimpinellin piperidine alkaloids (coniine, N-methyl-coniine, ciconiine, conhydrine, pseudoconhydrine and □-coniceine), flavonoids, coumarins, polyacetylenes, volatile and nonvolatile oils, neurotoxins and teratogenic alkaloids. It also contains ethyl piperidine, mucilage, gum, pectin, resin, carotene, cafeic acid, acetic acid, mineral elements, essential oil, fixed oil and piperidine-ethyl. Piperidine alkaloids' coniine content in immature fruit is 3%, and in mature fruit it is 1%. In the rest of the plant γ-coniine is more active than coniine. The piperidine alkaloid coniine is present in all plant parts, and at high concentrations (3.5%) in fruit.
- **Pharmacological action**: It is a sedative, nerve calming, anti-stress and antispasmodic, and is used for whooping cough, tetanus, asthma, epilepsy, and arthritis. It has an antifungal influence and is an antifeedant to *Deroceras reticulatum*. The plant is anti-bleeding, and if used as a poultice it causes weakness and atrophy in the penis (aplasia), and prevents lactation, menstruation and hair growth. If rolled on the breast it keeps it small with no growth, stops gout development and freezes the blood. It is lenitive, especially for neuralgia as a medical plaster. The fruits are a detoxicant for strychnine and for infections like tetanus. The coniine acts to relax the muscles and to counteract convulsions. The plant is used for respiratory system problems, cramps, anxiety and bladder infections.
- **Other uses**: A wild flower.
- **Caution**: All plant parts, especially the green and nearly ripe seeds, are deadly poisonous and have a fetid smell. This plant is highly dangerous and should never be collected and used for self-medication, even in small amounts. Toxicity symptoms include severe dizziness, thirst, cold feelings, muscle relaxation, week sensations and movement, swallowing difficulties, loss of sight, suffocation, effects on the nervous system (stimulation then paralysis of nerve endings and CNS stimulation and depression), vomiting, trembling, slow

and weak (and later rapid) pulse, heart debility, rapid respiration, dilation of the pupils, salivation, foaming, urination, nausea, muscle spasms, restlessness, convulsions, coma, intestinal ailments, bloody faeces, and then death. Overdoses can produce paralysis and the loss of speech, followed by depression of the respiratory function, and death within 15 minutes to 2 hours. An intake of 6-8g of leaf powder is enough to cause death to an adult male.

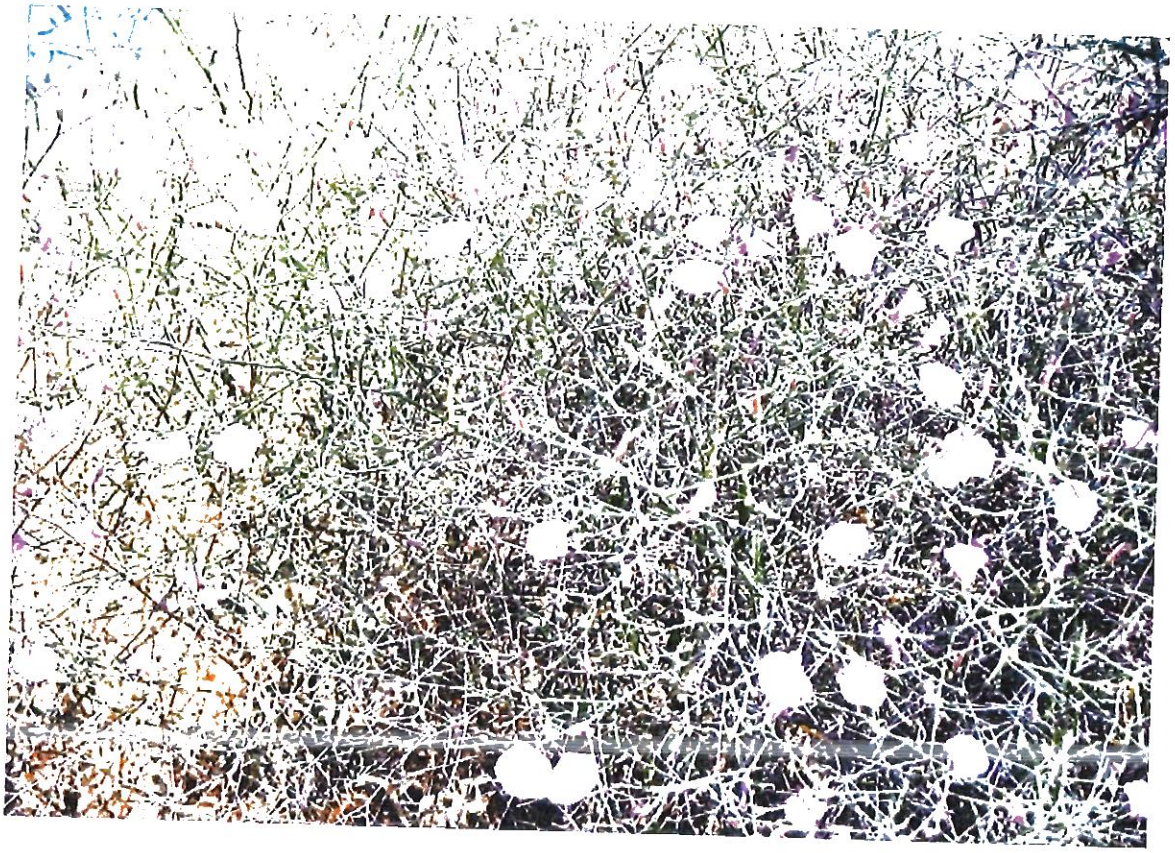
The plant contains piperidine alkaloids which have caused cleft palate in pigs, cattle, sheep and goats. It causes chronic toxicity in livestock, and the plant is more toxic to horses than other animals.

- **Arabic name**: Madadeh
- **Scientific name**: *Convolvulus althaeoides* L.
- **Common name**: Mallow–Leaved Bindweed
- **Family name**: Convolvulaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole flowering plant, leaves, flowering branches, roots, and flowers.
- **Chemical constituents**: Saponins, flavonoids, caffeic acid, tropane alkaloids including tropine, pseudotropine and tropinine. Lipids and δ-aminolevulinic acid are also present. Field bindweed was found to contain the pyrrolidine alkaloids cuscohygrine and hygrine. Gallic acid, vitexin, robinin (kaempferol 3-o-arabinoside-7-o-rhamnoside, 7-hydroxyl flavone, 5-hydroxyl flavones, alizarin, chrysophanol, emodin, coumaric acid, 2-naphthalene carboxylic acid, isorhamnetin 3-o-galactoside, p-coumaric acid, apigenin 7-o-glucoside, 4,7-dihydroxy flavone, apigenin, ferulic acid, quercetin, syringic acid, 3-hydroxy 4, 4\, 6-trimethoxy aurone, rutine, coutaric acid, benzoic acid, baicalin, rosmarinic acid, isovitexin, flavone, syringetin 3-glucose, and luteolin-7, 3\, 4\tri-o-glucuronate are also present.
- **Pharmacological action**: The plant has a hypoglycaemic effect and is a fat digestive. It is anti-diabetic, astringent, blood purifying, diuretic, tonic and is used for bronchitis and tonsillitis. The root, leaves and flowers are purgatives. The flowers are given to children with constipation.
- **Other uses**: A wild flower.
- **Caution**: No reports.

- **Arabic name**: Madada Mulawana, Mudeed, Ulaqe, Ulaqe Barri, Laf, Laf Al-Qameh, Maddad, Lublab, Qarula, Leblab Al-Huqool
- **Scientific name**: *Convolvulus arvensis* L.
- **Common name**: Field Bindweed
- **Family name**: Convolvulaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole plant at flowering stage, leaves, flowering branches, roots, and flowers.
- **Chemical constituents**: Polysaccharides and proteins. The rhizomes contain 4.9% resin, and other plant parts contain convolvulin glycoside, especially roots and rhizomes. It also contains carotene, vitamins C and E, saponins, materials that help in coagulation, and alkaloids of a locale narcotic effect. In addition, tannin, sugar, pectin, anisetol, acids of allicin, oxalic, latex, polysaccharides and proteins are present.
- **Pharmacological action**: It is sedative, stomachic, emetic, laxative (used for constipation), and purgative. It is effective against jaundice and for wounds, skin burns, worms, skin disorders and as an anti-hemorrhagic. Its formulations are diuretic, cathartic, and diaphoretic. They are used for bronchitis, gastritis and enteritis. The plant decoction is a cure for rheumatism, gout, elephantiasis, chronic coughs, asthma and severe diarrhoea. It is depurative and astringent and therefore used for mouth ulcers. It cures chest catarrh, dropsy, feet corns, and some skin diseases. It is also a remedy for neuralgia, vasoconstrictions, thus reducing secretions, is used for stomach ulcers, intestine debilities, and blood infections, and stops leucorrhoea. The plant is included in a mixture of herbs as an effective treatment of cancer, mainly in the treatment or management of adenocarcinoma of the prostate. Extracts containing polysaccharides and proteins inhibit the growth of tumour cells and blood vessels, and enhance immune functions. A compound of a bacterial extract with plant extract has an immune-stimulatory action and can inhibit the growth of the tumour.
  Tea made from leaves is a wash for spider bites, and reduces profuse menstruation, and the flowers' tea reduces fevers and heals wounds. The roots' tea is a laxative and leaves and roots stop bleeding.
- **Other uses**: Fodder, a wild flower and a common weed.
- **Caution**: The plant is poisonous at any dose. Its consumption causes severe diarrhoea, and possibly haematuria and permanent barrenness. Animals fed on the plant suffer anorexia, show signs of toxicity and then die.

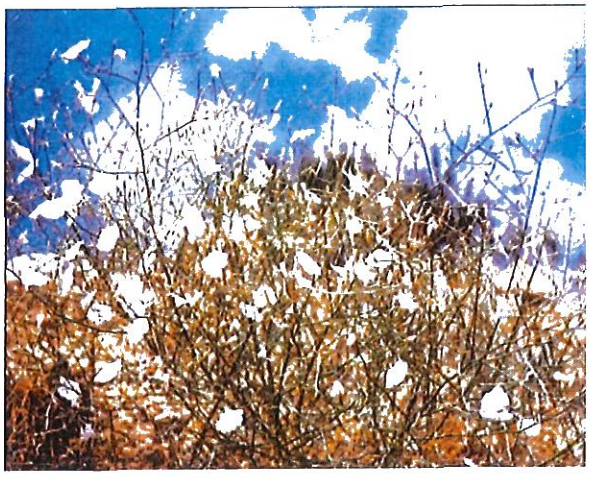
- **Arabic name**: Madadeh Shajariah, Ulaiq
- **Scientific name**: *Convolvulus dorycnium* L.
- **Common name**: Convolvulus, Field Bindweed
- **Family name**: Convolvulaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole plant.
- **Chemical constituents**: Phenolic metabolites 3-(2-butoxy-3-caffeoyl-1-hydroxycyclobutyl)-3-hydroxypropanoic acid, named dorycnic acid, 4-O-(4′-carboxymethyl-2′,4′,6′-trihydroxycyclohexyl) vanillic acid, scopolin, kaempferol 3-rutinoside, scopoletin, and methyl caffeate were isolated from the flowers. Dorycnic acid displayed significant anti-oxidative activity in the DPPH assay, with an IC50 value of 31.5 μM.
- **Pharmacological action**: The plant is used for coughs, asthma and chest ailments.
- **Other uses**: A wild flower.
- **Caution**: No reports.

- **Arabic name**: Madadah, Melio, Rkhaima, Hathmy
- **Scientific name**: *Convolvulus pilosellifolius* Desr.
- **Common name**: Soft Bindweed
- **Family name**: Convolvulaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Aerial parts and the whole plant.
- **Chemical constituents**: Flavonoids include quercetin, kaempferol, kaempferol flavonoids, phenolics, tropane, tropane alkaloids, sterols, resin, sugars, coumarins, and triterpene.
- **Pharmacological action**: The plant is depurative, cathartic, and is used against *Helicobacter pylori* bacteria and ulcers. The extract is anti-inflammatory, and is used for peptic ulcers, and as an antinociceptive and antipyretic.
  In folk medicine, the plant is widely used for stomach aches, and as an anti-carcinogen, antioxidant, anti-asthmatic and anti-tussive. It is also cytotoxic.
- **Other uses**: The plant is edible in salads or can be cooked with rice to give flavour.
- **Caution**: No reports.



Convolvulus spp.

C. betonicifolius Mill.

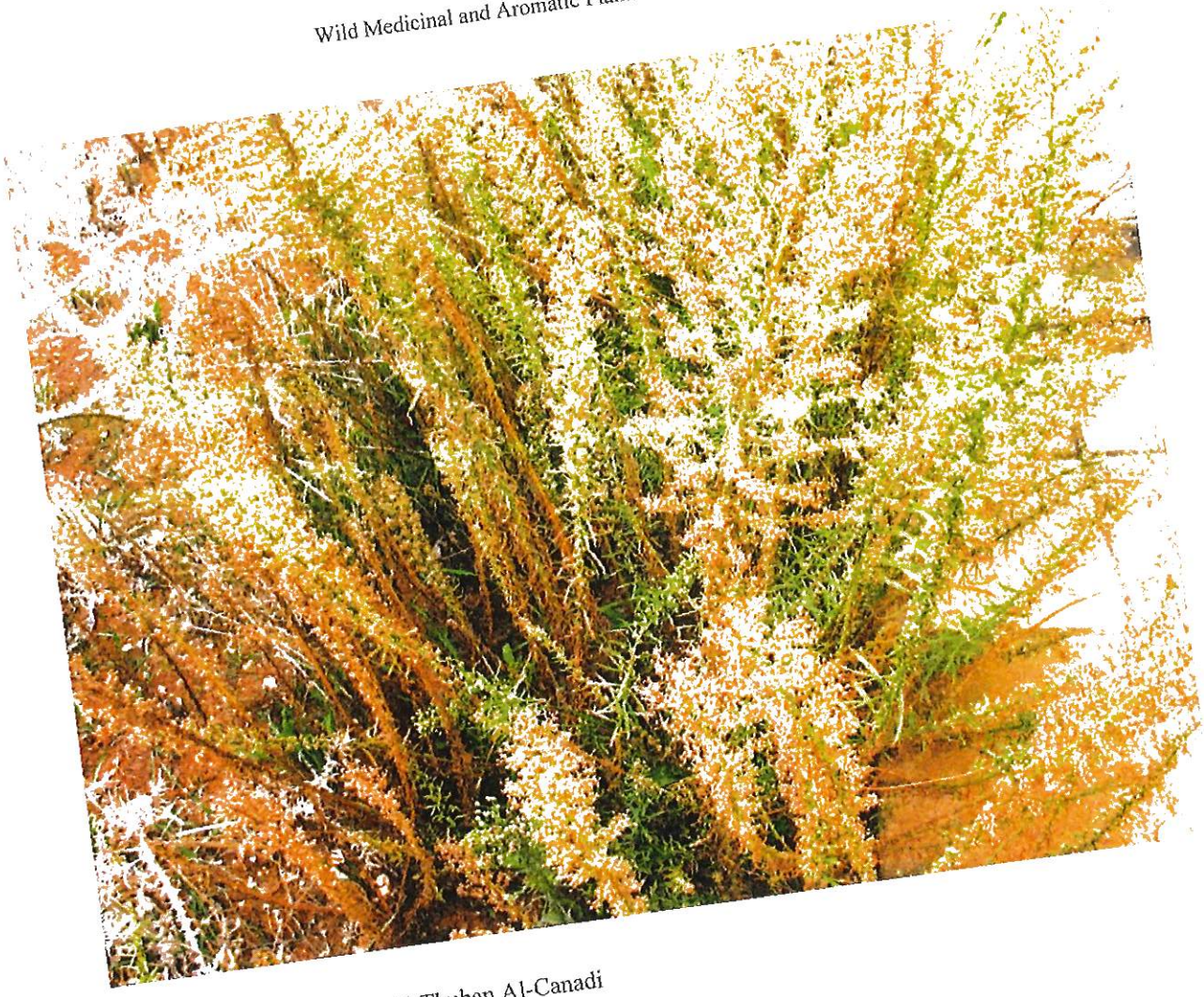


Convolvulus dorycnium

Convolvulus sp.

- **Arabic name**: Nashash Al-Thuban
- **Scientific name**: *Conyza bonariensis* (L.) Cronquist
- **Common name**: Fleabane, Horseweed, Butterweed
- **Family name:** Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Aerial parts of the herb and flowering stems.
- **Chemical constituents**: Flavonoids, glycosides, organic acids, tannins, resins, flavones, organic acids including tannic acid, alkaloids, essential oil made from monoterpenes, acetylenes, terpineol, limonene, sesquiterpenes and diterpenes, and fixed oil made from limonene, terpineol, and choline. (E)-□-farnesene, germacrene D, and □-caryophyllene are also present.
- **Pharmacological action**: The plant is hypoglycaemic, anodyne, diuretic, healing, restorative, febrifuge, anthelmintic, insecticidal, anti-rheumatic, anti-diarrhoeal, anti-ulcer and gastric. It is used to treat dermatosis, ringworm, dysentery, pityriasis versicolour, acne vulgaris, candidiasis, onychomycoses, impetigo, dandruff, seborrhoea, arthritis, gonorrhoea, myalgia, and ulcers, and it is also anti-bleeding since it is a vasoconstrictor. The plant extract is used for acute diarrhoea, kidney disorders, kidney stones, laryngitis, nephritis and cystitis. The fixed oil is anthelmintic, stimulant, emollient, a tooth tonic, and hepatoprotective, and acts against the infection of the urinary system and against venereal disease. A slightly aromatic, bitter, tonic herb, it acts against haemorrhaging, excessive painful menstruation, and bronchial complaints. Externally it is used for eczema, as a wound disinfectant, against bleeding piles, as a vermifuge, as a steam for sweat lodges, as a smoke to ward off insects and as a snuff to stimulate sneezing.
- **Other uses**: A wild flower.
- **Caution**: Airborne dust resulting from the breakdown of senescent tissues is the causative agent of bush dermatitis.

Plant population in the field



- **Arabic name**: Nashash Al-Thuban Al-Canadi
- **Scientific name**: *Conyza canadensis* (L) Cronquist
- **Common name**: Canadian Fleaban, Horseweed
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Flowering stems.
- **Chemical constituents**: Essential oil is made from limonene, terpinol (E)-□-farnesene, spathulenol, trans-□-bergamotene, □-pinene and carvone. Sphingolipids and flavones are present. Fixed oil is made from limonene, terpineol, tannins, choline, resins, and tannic acid.
- **Pharmacological action**: It is anti-bleeding, diuretic and anti-rheumatic. The plant extract is used for severe diarrhoea, kidney disorders, kidney stones, pharyngitis, nephritis and cystitis, and is antiphlogistic and antifungal. The fixed oil is anthelmintic.
- **Other uses**: A wild flower.
- **Caution**: No reports.

- **Arabic name**: Khwaitmeh, Thifr Al-Quoba'a
- **Scientific name**: *Coronilla scorpioides* (L.) W.D.J.Koch
- **Common name**: Scorpion Vetch, Annual Scorpion Vetch
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole herb.
- **Active constituents**: Cardenolide glycoside (hyrcanoside, hyrcanogenine, coronillin, corotoxigenin, frugosid, glucocorotoxigenin, scorpioside, and coronillobioside), polyphenols, coumarins, hydroxycoumarins (umbelliferone, scopoletin and daphnoretin), dihydro-furanocoumarin marmesin, and the furocoumarin psoralen.
- **Pharmacological action**: *Coronilla scorpioides* induces cardiac effects. The twigs and leaves have a similar action to the common broom, *Cytisus scoparia*. The plant is diuretic, cardiac, cathartic and laxative. The plant contains the glucoside coronillin. This, in small doses, slows the pulse through the stimulation of the inhibitory ganglia, and in larger quantities increases the tonicity and contractility of the heart. A poultice made from the leaves and stems is applied to the bites of scorpions and other venomous animals.
- **Other uses**: A blue dye like indigo can be obtained from a fermentation of the plant's leaves.
- **Caution**: Large quantities eventually lead to systolic spasms of the ventricle, leading to death by cardiac arrest.

- **Arabic name**: Skorjera Mutaghiara, Eklelia Mutaghiara
- **Scientific name**: *Coronilla varia* L.
- **Common name**: Crown Vetch
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Flowering stem, leaves, seeds, and the whole plant.
- **Chemical constituents**: Toxic cardiac alkaloids, among which are coronilline glycoside, flavone glycosides, nitropropionic acid, coronilloside, pseudo-coumarin, fixed oil, sugar, coroniside, tannins, bitter compounds, ganic salts and vitamin C.
- **Pharmacological action**: The coronilline regulates the heart function. The plant is diuretic and used for cardiac diseases. The leaves are depuratives and cathartic, and the seeds are used for asthma, cardiac problems, as a cathartic and against scorpion stings.
  In folk medicine, the plant is used in the treatment of heart debilities and its action is similar to that of digitalis.
- **Other uses**: A wild flower and common weed.
- **Caution**: It is poisonous in any but controlled small doses. Exposure to the plant's juice or sap may produce a skin rash or irritation. Skin wounds from this plant can be extremely painful, causing large blisters and burning of the skin. Its ingestion, especially in large amounts, is expected to cause effects to major body organs such as the liver, heart and kidneys. The plant is known to cause problems in animals. Its flowering tops may be toxic; chemicals of concern include cardiac glycosides and aglycones. The seeds are rich in coronilla glycosides, which have digitalis-like activity.

- **Arabic name**: Za'atar Kabeer, Za'atar Farisi
- **Scientific name**: *Coridothymus capitatus* (L.) Reich [*Thymus capitatus* (L.) Hoffm. et Link.]
- **Common name**: Thyme, Headed Savory, Headed Thyme
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: The whole plant, especially the essential oil, flowers, leaves.
- **Chemical constituents**: Saponins, resins, tannin, flavonoids, essential and fixed oils. The essential oil mainly consists of monoterpenes (98.9%), hydrocarbons and phenolic monoterpenes, while the amount of oxygenated hydrocarbons was identified as 55.6% and non-oxygenated hydrocarbons as 43.6%. The major components are carvacrol, thymol and their isomers, menthol, myrcene, a triterpene and oleanolic acid. P-cymene, cymol, γ-terpinene, α-terpinene, α-thujene, □-caryophyllene, □-elemol, caryophyllene oxide, thymohydroquinone and thymoquinone are also present.
- **Pharmacological action**: The plant is strongly antiseptic, antispasmodic, astringent, expectorant, deodorant and disinfectant. It is also hypoglycaemic, antioxidant, anti-cancer, antibacterial, antifungal, and used for cardiac disorders, circulation, stomach and abdominal pains, paralysis, muscle spasms and rheumatism. It is useful for all types of cough: asthma, nervous cough, dry cough, hacking cough, whooping cough, and lung or bronchial tube infections. It is effective against intestinal infections, intestinal worms, fungal growth, thrush and mouth fungi, scrofulous skin conditions (lotion), liver diseases, indigestion, and as a skin disinfectant and wound cleanser.

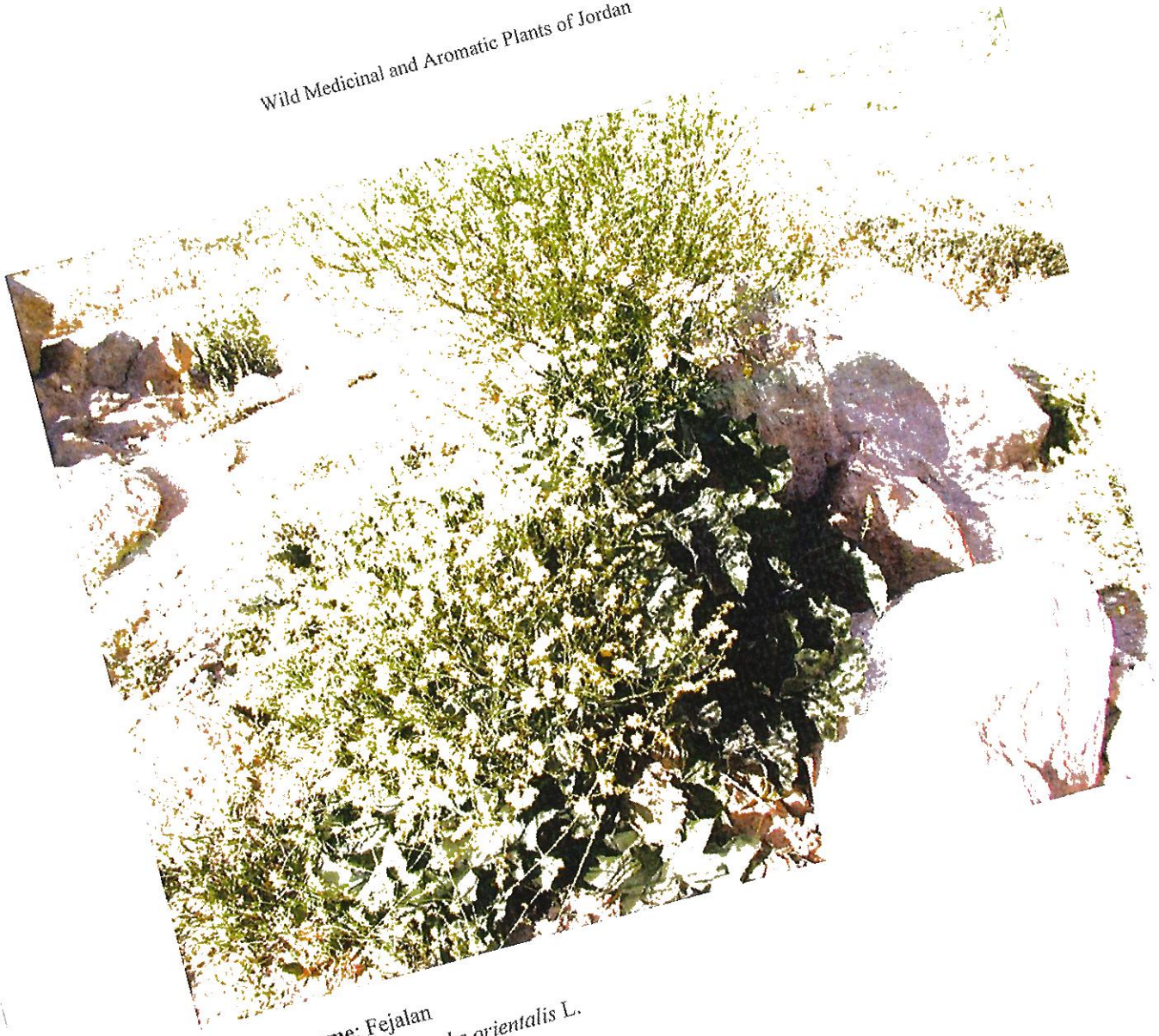
  Thyme's medicinal effects are mainly due to its oil. It is an antiseptic, a powerful antibacterial and anti-microbial in general. It kills different species of bacteria and microbes, among which are typhus, tuberculosis and colon microbes. It is a sedative, diuretic and detoxicant. Thyme oil stimulates blood circulation, and kills dysentery-causing amoebae. It has been mentioned to be a cure for rheumatism. It is useful for backaches, liver and gallbladder congestion, ophthalmia, slimness and weight loss. Its oil is used in liniments for muscle pain and to combat itchiness.

  A leaves decoction is used as a gargle for mouth disinfection and cures throat catarrh. It is effective against the ancylostoma worm, and thymol is anthelmintic. Thyme is used for colon inflammations and as a component of many medical mixtures used for colds. It has been mentioned to cure some skin diseases such as eczema. The tannin is astringent, antiseptic, helps wound healing, and is anti-bleeding and anti-diarrhoeal. The resins are a muscle tonic, anti-sclerosis, and exclude harmful salts.

The plant's tea is used for colds, nervous conditions, colic and headaches. The plant's infusion is used for congestion.

- **Other uses**: Its fresh or dried leaves are edible and are used as an ingredient in herbal mixes. Fresh leaves are used as a salad seasoning and for dough stuffing, spices and pastes. The oils are used as fumigants against fungi and insects attacking stored grains. The plant is a probable source of some biologically active agents for mosquitoes. It also protects fruits and vegetables against pest attacks.
- **Caution**: The essential oil should not be used in aromatherapy because it is highly irritant to the mucus membranes. Drug doses of thyme or its oil should be avoided by pregnant women in any form as they are a uterus stimulant.

The plant at the vegetative growth stage



- **Arabic name**: Fejalan
- **Scientific name**: *Crambe orientalis* L.
- **Common name**: Colewort Oriental
- **Family name**: Cruciferae / Brassicaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole plant, leaves, stems, and flowers.
- **Chemical constituents**: Flavonoids, alkaloids (almost all belonging to the quinolizidine type), volatile oil, isothiocyanates in the leaves, holocellulose, alpha cellulose, cellulose, lignin, ash and silica.
- **Pharmacological action**: The plant is used for medicinal purposes to improve the appetite, normalize digestion and as an antimicrobial. The plant's extract is highly cytotoxic and antimicrobial. In folk medicine, the plant is used as an anti-carcinogen.
- **Other uses**: Small young leaves are edible in salads, the leaves are cooked, and immature flowering stems are also edible raw or cooked and used like broccoli. The root can be cooked; it is very thick and can be used as a substitute for horseradish. Crambe is a promising crop since the species of this genus is used in industry, medicine and as a vegetable. It is a wild flower plant.
- **Caution**: No reports.

Full flowering plant

Fruiting stage

- **Arabic name**: Za'rour, Za'rour Aroni
- **Scientific name**: *Crataegus aronia* (L.) Bose. Ex DC.
- **Common name**: Hawthorn
- **Family name**: Rosaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Flowers, fruits, and leaves.
- **Chemical constituents**: Flavonoids, chlorogenic acid, and tannin.
- **Pharmacological action**: The plant is cardiotonic, stimulates blood circulation, hypotensive, lowers cholesterol levels in the blood and may be anti-diabetic.
- **Other uses**: Its fresh ripe fruits are edible raw.
- **Caution**: No reports.

- **Arabic name**: Za'rour, Nabaq, Za'rour Adi, Za'rour Shayek, Za'rour Al-Awdiya
- **Scientific name**: *Crataegus azarolus* L.
- **Common name**: Hawthorn, Thornapple
- **Family name**: Rosaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Red coloured fruits, flowers, and leaves, but these are rarely used in medicine.
- **Chemical constituents**: Chlorogenic acid, tannins, flavonoids (such as vitexin, rutin, quercetin, and hyperoside), oligomeric proanthocyanidins (OPCs, such as epicatechin, procyanidin, and particularly procyanidin B-2), flavone-C, triterpene acids (such as ursolic acid, oleanolic acid, and crataegolic acid), and phenolic acids (such as caffeic acid, chlorogenic acid, and related phenolcarboxylic acids). Fruits contain flavone glycosides, a mixture of organic acids such as oleic and ursolic acids, tannins, purine derivatives and procyanidins. In the flowers, there is an essential oil, quercetin, trimethylamine, choline, hyperosides, flavonoids, flavone glycosides, tannins, ceriategen, amygdaline, fixed oil and saponins.
- **Pharmacological action**: Fruits' extract and flowers' tincture are used for arrhythmia, as a cardiotonic, to lower cholesterol levels in the blood, and for heart attacks, insomnia and worrying. They are a sedative, analgesic, and antispasmodic and are also used for menstruation disorders. The plant is cardiac, hypotensive and antisclerotic. Plant formulations are blood circulation stimulants, mainly for the brain and cardiovascular circulation, and are also useful for arteriosclerosis and menopausal syndrome. A fresh fruit extract is used for cardiac nerve disorders resulting from hypertension or those associated with menopausal issues and keep the blood pressure at a normal level. Hawthorn berries are nutritive and support the heart and circulatory system. The plant stimulates and increases enzyme metabolism in the heart, improves oxygen consumption and stimulates drowsiness. In traditional medicine, the fruit extract and the infusion of dried fruit are mild sedatives, and are used for severe diarrhoea, chronic heart failure, palpitations and insomnia. Young stem tops are used as an anti-pyretic to counteract fever.
- **Other uses**: The fruits are eaten fresh. The plant is a rootstock for pears and quince, and is regarded as a wild flower and a forest tree.
- **Caution**: Hawthorn should not be used during pregnancy. The plant must be used under medical supervision.

- **Arabic name**: Za'rour
- **Scientific name**: *Crataegus monogyna* Jacq.
- **Common name**: Hawthorn, English Hawthorn
- **Family name**: Rosaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Flowers, leaves, and berries.
- **Chemical constituents**: Flavonoids, chlorogenic acid, rutin, quercitin, and polyphenols in flowers.
- **Pharmacological action**: The plant is cardiotonic, cicatrizing, a coronary vasodilator, hypotensive, dissolves deposits in sclerotic arteries and lowers cholesterol levels. It is used for anti-cardiac disorders, as a respiratory system analgesic, for cardiac nervous disorders, as a wound healer, and to provide nutritional support to the heart and circulatory system.
- **Other uses**: Its fresh ripe fruits are edible raw.
- **Caution**: No reports.

Fruiting stage

- **Arabic name**: Halawa
- **Scientific name**: *Crepis aspera* Lam
- **Common name**: Hawkweed, Hawksbeard, Hawk's Beard
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Flowers
- **Chemical constituents**: Costus, lactone type guaianolide, sesquiterpene lactone, and furocoumarin.
- **Pharmacological action**: A flower infusion is used for ophthalmologic diseases.
- **Other uses**: The plant is edible despite the acrid taste that causes toxicity. Fresh plants are used in animal feed and the plant is regarded as a wild flower.
- **Caution**: It is a relatively toxic plant.

At seeding stage

- **Arabic name**: Zaafaran, Shuhaim, Crocus Barri, Curcum, Reheqan, Jaddi
- **Scientific name**: *Crocus* spp.
- **Common name**: Saffron
- **Family name**: Iridaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Stigma, filament ends, petals, and corms.
- **Chemical constituents**: *Crocus* stigma contains aromatic oil (0.4-1.3%) made from safranal, red colouring materials in the form of glycoside compounds belonging to the carotenes group named crocin, protocrocin, bitter elements and picrocrocine, and fixed oil (8-13%). Stigma contains volatile aromatic fatty acid.
- **Pharmacological action**: The plant is used for wounds, coughs, colic, scabies and mithridatium. The spice from the plant has possible anti-carcinogenic, anti-mutagenic, immunomodulating, and antioxidant-like properties. Saffron may help with depression and may protect the eyes from the direct effects of bright light and retinal stress and thus slow down retinitis pigmentosa. Crocus oil is used as an anticonvulsive and antinociceptive, and cures menstruation ailments and gingivitis. It is a sedative, tonic for the central nervous system and useful for impotence and depression.
  In folk medicine, the plant is used as a nerve stimulant, tonic and digestive. It is commonly used in cool countries as an aromatic, diaphoretic drink, and is useful for asthma and colds, is a stomach tonic, and strengthens and enhances sexuality. A stigma decoction is a mild stimulant, anti-cold, and cures mucus membrane inflammations. *Crocus* powder is a nerve tonic and effective against blood period disorders.
- **Other uses**: It is a spice in the form of dry stigma powder, and its water extract and crocus pigment are flavouring and colouring agents in food. It provides a natural yellow colour in the food industry.
- **Caution**: It may cause problems for labourers who work on the plant during harvesting and drying. Symptoms include headaches, dizziness, general muscle weakness, and in severe cases hysteria and loss of consciousness. It is a strong drug and should not be used in self-medication.

Crocus spp.

- **Arabic name**: Zahafa Hamra"a
- **Scientific name**: *Crupina crupinastrum* (Moris) Vis.
- **Common name**: False Saw-wort
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Aerial parts.
- **Chemical constituents**: Flavonoids.
- **Pharmacological action**: The aerial parts' decoction is used for wounds. The plant is antiseptic, antimicrobial and the essential oil (1.3%) is a strong anthelmintic. An inflorescence decoction is used for conjunctivitis.
- **Other uses**: It is a wild flower.
- **Caution**: No reports.

- **Arabic name**: Khyar Barri, Nafeia, Shimam Barri, Sheri, Hnaidalan, Haddaq.
- **Scientific name**: *Cucumis prophetarum* L.
- **Common name**: Wild Cucumber, Globe Cucumber
- **Family name**: Cucurbitaceae
- **Growth habit**: Prostrate herb
- **Life cycle**: Perennial
- **Part/s used**: Fruits
- **Chemical constituents**: The plant contains cucurbitacin B, C, D, E, I and Q1, propheterosterol and its acetate, isocucurbitacin B, and dihydrocucurbitacin B, D, E, and I. The amino acids in fruits are leucine, isoleucine, phenylalanine, valine, tryptophan, tyrosine, praline, alanine threonine, glycine, arginine, crystine and aspartic acid. All plant parts contain fructosans, inositol, glucose, fructose, and an unknown sugar. The bitter substance prophetin and maleic acid are in shoots and roots, and the fruits contain bergapten and latex, in addition to bergapten that gives alpha-amyrin and imperatorin. The toxic fruit pulp contains a bitter resinous body and myriocarpin,
- **Pharmacological action**: The plant is used to cause abortion in women and in the treatment of rabies; the leaves' decoction is used to treat ulcers and the fruits are emetic and cathartic. The plant is diuretic and used for eczema. The fruit pulp is toxic and contains a bitter resinous body and myriocarpin, and it causes nausea and is slightly purgative. Cucurbitacin Q1 is an anti-tumour agent.
- **Other uses**: A wild flower and source of genes in plant breeding.
- **Caution**: The plant induces nausea and is slightly purgative. The fruits, if eaten, are highly poisonous, perhaps due to a bitter principle (glycosides). An extract of the plant, if administered to a cow that has just calved, will help remove the placenta quickly, and it can cause skin rashes or irritation, which may be very serious and painful. Other parts can cause minor symptoms, such as vomiting or diarrhoea.

Cucumis acidus Jacq. f.

Ajloun Castle

- **Arabic name**: Siriw Barii
- **Scientific name**: *Cupressus sempervirens* L
- **Common name**: Wild Cypress
- **Family name**: Cupressaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Female cone, branches, aromatic oil, and fruits.
- **Chemical constituents**: Aromatic oil made from hydrocarbonic terpenes, tannic acid, parasimol, camphor, valerian acid, furfural, camphene, terpinol, tannins, and flavones.
- **Pharmacological action**: Branch ash is used for burns and strangury. It is a cure for dysentery, bloody coughing and asthma. The cones' extract is used for hair colouring. Root powder with vinegar is a hair tonic and dye. Fresh leaves are prepared in a poultice for hernia and, when cooked with vinegar, they soothe toothache. A fruit drink is used for dyspnoea, weak erections, coughs, strangury, and gastrointestinal and stomach ulcers. Cypress is externally used as a lotion and the aromatic oil is used as a vasoconstrictor, and internally it is used as an anti-spasmodic and a general tonic. The plant is prescribed for influenza and throat catarrh. Cypress helps with dropsy and water body retention and is also used as an antimicrobial. The oil is astringent, antiseptic, and deodorant. It is also diuretic, antioxidant, stimulant, anti-bleeding, diaphoretic, sedative, and a tonic for the respiratory system, and cures the liver. The oils possess insecticidal activities. The perfumes are analeptic and important in oily skin care.
- **Other uses**: The oil is an insect repellent and insecticide. The plant is used in the paper industry.
- **Caution**: The oil is never to be taken internally; toxicity symptoms include general debility, inconsistent movement, abortion in cows and death.

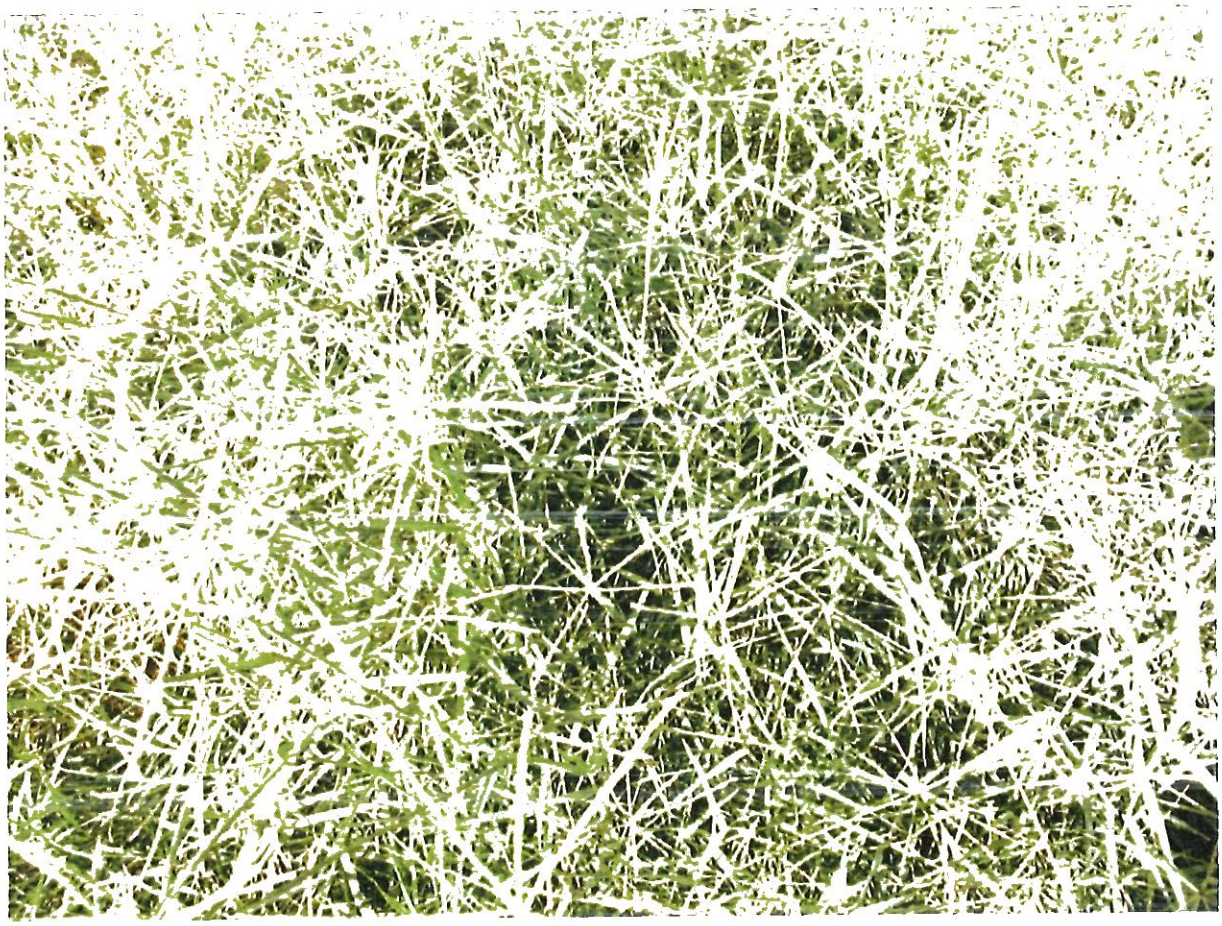
- **Arabic name**: Hamool Al-Sa'tar, Hamool Al-Zaitar, Alsaitrah, Harir Al-Zaitar, Al-Afteemon
- **Scientific name**: *Cuscuta epithymum* L.
- **Common name:** Dodder, Hellweed, Strangle-Tare
- **Family name**: Cuscutaceae / Convolvulaceae
- **Growth habit**: Parasitic Herb
- **Life cycle**: Annual
- **Part/s used**: Stems, flowers, seeds, and the whole plant
- **Chemical constituents**: The flavonoids kaempferol and hyperoside, cuscutin, tannins, and resins.
- **Pharmacological action**: The plant is a laxative, diuretic, liver tonic and purgative. It is a tonic for the kidneys, gallbladder, spleen and liver. It is also used for jaundice, sciatica, scurvy, premature ejaculation, sperm leakage, enuresis, tinnitus, lower back pain, sore knees, leucorrhoea, dry eyes, blurred vision and tired eyes. The plant is a cholagogue, useful for the stomach, and is used for liver congestion and cleansing. It is also used for impotence, for the bowels, to protect against and cure gout and arthritis, and as an expectorant.
  Plant extracts are a good inhibitor for breast and skin cancers, are anti-tumour, and may be useful in the treatment of androgen-induced alopecia. The seeds are used for osteoporosis compounds. It is an aphrodisiac and a longevity herb, which is used for the treatment of melancholy diseases and burnt choler, and is helpful for all diseases and grief of the spleen. It also purges the reins or kidneys of urine, and is very effectual for procuring plenty of urine in cases where it has been stopped or hindered. The extract also speeds up seminal ejection before attainment, seminal liquid leaching, repeatable urination, tinnitus, backache, knee ulcer and pain.
  In folk medicine, the plant is used to nourish the energetic liver and kidney matrices, treats liver, spleen, and gallbladder disorders, and supports the liver function. It is also used to treat scrofula derma, kidney and prostate disorders, prostate cancer, increases the rate of the self-destruction (apoptosis) of cancer cells, and prevents the surviving cells from forming colonies. It cures muscle pain, coughs, and problems with urination. The seeds contain a complex carbohydrate that stimulates the immune system and has some antioxidant properties.
- **Other uses**: It is a parasitic weed on different species including some crops, and may sometimes be regarded as a wild flower.
- **Caution**: The plant should not be taken during pregnancy because of its purging properties. It should be taken only on the advice of a medical herbalist. It causes toxicity at considerable doses and results in such symptoms as loss of appetite, gastroenteritis, constipation, diarrhoea, colic, and death.

- **Arabic name**: Hamool
- **Scientific name**: *Cuscuta reflexa* Roxb.
- **Common name**: Dodder
- **Family name**: Cuscutaceae / Convolvulaceae
- **Growth habit**: Parasitic herb
- **Life cycle**: Annual
- **Part/s used**: The whole herb.
- **Chemical constituents**: Cuscutin, amarbelin, β-sitosterol, stigmasterol, kaempferol, dulcitol, myricetin, quercetin, coumarin and oleanolic acid.
- **Pharmacological action**: The plant is used for washing sores. It is carminative, alterative, purgative, anthelmintic, and anti-lice. It is useful for diseases of the liver and spleen, blood impurities, constipation, fevers and flatulence.
- **Other uses**: A parasitic weed.
- **Caution**: No reports.

- **Arabic name**: Zaimatoot, Qarn Al-Ghazal, Saponat Al-Ra'i, Badraneh, Cyclamen
- **Scientific name**: *Cyclamen persicum* Mill.
- **Common name**: Cyclamen, Persian Cyclamen, Sowbread
- **Family name**: Primulaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Tubers and rhizomes.
- **Chemical constituents**: Cyclamin glycoside, saponins, and terpenoid saponins.
- **Pharmacological action**: It is anthelmintic, purgative and astringent. It is used for rheumatic pain, headaches, cardiac diseases and thyroid gland swelling, and is a cure for abdominal pains, eye infections and inflammation, bone crispness, nerve infection, wounds, eczema, skin rashes, and toothache. The tuber is also effective for snake bites and its extracts inhibit cells derived from human carcinoma of the nasopharynx (KB) *in vitro*, and detoxify all toxins, especially sea air. Ointments with oil or honey are believed to be good for treating cataract formation and weak sight, and cleanse the skin to cure blemishes and boils, treat sunburn, and stimulate hair growth.
  The tuberous root's stock juice is applied externally, either over the bowels and bladder region or on the anus, as an aphrodisiac. Cyclamine is readily absorbed by the intestine as an effective purgative, and acts against arthritis, rheumatism and haemorrhoids.
- **Other uses**: Cyclamen tubers are baked and made into cakes and eaten as a love potion or used in dough stuffing. Powdered cyclamen tubers are a toxic fish bait; if scattered on water, fish float and easily caught. A perfume is also obtainable from cyclamen.
- **Caution**: The ingestion of these plants, especially in large amounts, is expected to affect major body organs such as the liver, heart and kidneys. The plant is known to cause problems in animals and is a possible health hazard. The toxic principles are the triterpene saponins. *Cyclamen* spp. contain toxic saponins. The tuber is of much concern.

- **Arabic name**: Mudaid
- **Scientific name**: *Cynanchum acutum* L.
- **Common name**: Cynanchum
- **Family name**: Asclepiadaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The aerial parts, seeds, and latex.
- **Chemical constituents**: Flavonoids, alkaloids, β-sitosterol, lupeol, lupyl acetate, α-amyrin, sarcostine, quercetin, quercetin 3-O-β-, D-galactoside flavonoid glycosides, quercetin di-O-hexoside, quercetin 3-Orhamnosyl (1→2) glycoside, quercetin 3-O-galactoside, quercetin 3-O-xyloside, simple coumarins, scopoletin, and scoparone.
- **Pharmacological action**: It is antiseptic, anti-diabetic, purgative and antioxidant because of the significant flavonoid content. It decreases the ulcer index, lowers cholesterol and triglyceride levels and increases insulin and glycogen levels. The latex is used for skin and eye problems. The seeds are edible. The extract of aerial parts has anti-ulcerogenic effects.
- **Other uses**: An ornamental plant and a wild flower.
- **Caution**: It is a highly toxic plant.

- **Arabic name**: Cynaria, Khurshoof Barri
- **Scientific name**: *Cynara syriaca* Boiss
- **Common name**: Syrian Artichoke
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Vegetative parts and receptacles, leaves and stem.
- **Chemical constituents**: Caffeic acid, apigenin, apigenin-7-glycoside, luteolin, luteolin-7-glycoside, and cynarine.
- **Pharmacological action**: It is used for diabetes. The plant also has cytotoxic and apoptotic effects in colorectal cancer cells.
- **Other uses**: Blanched leaf stalks are eaten as a vegetable, and dry immature flower heads are used to curdle milk to make a rennetless cheese. The stem is edible.
- **Caution**: No reports.



- **Arabic name**: Tuhmat Thyl, Najm, Najeel, Ethl, Injeel, Okrush
- **Scientific name**: *Cynodon dactylon* (L.) Pers.
- **Common name**: Bermuda Grass
- **Family name**: Gramineae / Poaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole plant, roots, rhizomes, and fruits.
- **Chemical constituents**: Proteins, fibres, fats, starch and mineral elements. In leaves, flavones, trisins, vitamins, sugars, flavonoids, glycosides, hydrocyanic acid, saponins and teratrepen are present.
- **Pharmacological action**: The plant is antimicrobial, depurative, cooling, tonic, diaphoretic, diuretic, haemostatic and laxative. It is used for kidney stones, asthma, diarrhoea, muscle ailments, pulmonary disease and foot edema. Fruit juice is demulcent, anti-acidic, astringent, styptic and diuretic. The plant heals wounds, and cures piles, scabies, skin diseases, venereal diseases and colds. In folk medicine, seeds are used against coughs. Macerated fresh leaves stop bleeding. Their juice is mixed with milk to cure irritation of the urinary tract and is an emetic. It is used with rose flowers in the treatment of jaundice, dysentery and wounds. It acts as an antimicrobial, anti-carcinogenic, and antiphlogistic agent and acts mainly against cystitis. Most recently, this grass has been studied for its potential use in the treatment of diabetes. It is also often used to improve a variety of urinary tract issues and infections as well as intestinal disorders. The plant treats many problems like thirst, biliousness, vomiting, leprosy, and blood diseases. Extracted plant juice is used for hysteria and epilepsy.
- **Other uses**: A forage and lawn plant. It is a common weed.
- **Caution**: The plant contains toxic cyanogenic glycosides.

- **Arabic name**: Ghraif, Luzaiq
- **Scientific name**: *Cynoglosum creticum* Mill.
- ***Common name***: *Hound's Tongue, Blue Hound's Tongue*
- **Family name**: Boraginaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Roots' bark and shoot.
- **Chemical constituents**: Six active compounds in shoot extracts (allantoin, *p*-hydroxybenzoic acid, rutin, hydrocaffeic acid, rosmarinic acid, and chlorogenic acid), four compounds in root extracts (allantoin, hydrocaffeic acid, rosmarinic acid, and shikonin), and pyrrolizidine alkaloids.
- **Pharmacological action**: It is antispasmodic, anti-inflammatory, and demulcent, and is used for pulmonary infections, tuberculosis and haemorrhoids. A seed infusion is used for head colds. Leaves are placed on abscesses and running sores as a cure.
- **Other uses**: It is a wild flower, as well as an ornamental or medicinal garden plant in different countries.
- **Caution**: In some parts of the world this species is a troublesome pasture weed, and it could potentially affect the productivity of grazing and dairy farms in the wetter parts of southern Australia. Its leaves are also toxic to livestock (e.g. cattle and horses), while cattle usually avoid it in the field. Poisoning can occur when the plant is fed with hay or chopped forage. The burrs can also become attached to the hides of cattle, causing skin irritation.

- **Arabic name**: Tarthuth, Halook Malta, Mazrour, Marsoos, Marshoosh, Tarthooth Al-Nabi Adam, Abu-Shall, Tha'rur, Halook, Al-Nakai, Al-Naka'a, Al-Kalbi Al-Qurmuzi
- **Scientific name**: *Cynomorium coccineum* L.
- **Common name**: Red Thumb, Maltese Mushroom, Scarlet Cynomorium
- **Family name**: Balanophoraceae / Cynomoriaceae
- **Growth habit**: Parasite
- **Life cycle**: Perennial
- **Part/s used**: Stems.
- **Chemical constituents**: Anthocyanins, anthocyanic glycosides, triterpene saponins, tannins, lignans.
- **Pharmacological action**: The plant is important in cases of kidney deficiency characterized by impotence, cold pain in the loins and knees, female barrenness, and constipation. It is believed that it would be useful to treat ailments of the blood. A component in sexual enhancement herbal products, it works in men and women and sometimes provides results within hours, and continues over several days of use. It is effective against dysentery, bleeding during pregnancy, nose and bottom bleeding, is eaten as a liver remedy, and heals wounds and digestive system ulcers. The complete plant is an aphrodisiac, seminal generative and a general tonic. It is a cholagogue, and strengthens relaxed joints. The plant's extract is hypotensive, and is used for

impotence (its current main application in commercial products), and there are also findings that the herb extract inhibits HIV, lowers blood pressure, and improves blood flow in laboratory experiments.
The plant is used in treating apoplexy, venereal disease, high blood pressure, vomiting, irregular menstrual periods and as a contraceptive and toothpaste.
In folk medicine, it is used as an astringent and aphrodisiac and increases the sperm count. It improves the percentage of live sperm and their motility, decreases the number of abnormal sperm and lowers blood pressure in dogs. It is a hair tonic, and it has been mentioned that pulp powder in a mixture with honey is beneficial for impotence and deficiency in sperm liquid, while the plant's extract increased immature rat castrates and the tube size of sperm production, and thus increased the number of sperms produced.

- **Other uses**: *Cynomorium* is available for human consumption in emergencies, famines, and in specific conditions. The stems are eaten raw or roasted like maize. It is used as a red dye. The stem is cooked and mixed in some foods, giving it a red colour and an appetizing bitter flavour. The powdered stem is used as a spice on meat during its preparation. The red coloured extract is used for dyeing clothes. The plant is also used in leather tanning and is important in industry; its dye is used for colouring jewellery and by the Bedouins for stamping their cattle. The same people use the plant for anti-bile fluid retention. In the underground part of *Cynomorium*, there is a bitter sweet, which is edible. The juice of the swollen underground part of the stem base is used as a drink. However, the plant is of a strong bitter taste and it is normally fed on during famines.
- **Caution**: It harms the lung and causes skin roughness. A contradiction exists in the literature on its potential for grazing. While some reports indicate it could possibly be used fresh in animal feed, others report the plant as being unpalatable.

- **Arabic name**: Sua'id
- **Scientific name**: *Cyperus alopecuroides* Rottb
- **Common name**: Sedge
- **Family name**: Cyperaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Tubers, bulbs, and rhizomes.
- **Chemical constituents**: Phenolic compounds, scopoletin, isoliquiritigenin 4′-methyl ether, luteolin 5,3′-dimethyl ether, luteolin 7,3′-dimethyl ether, aureusidin 4-methyl ether, apigenin, luteolin, trans-ferulic acid, luteolin 4′-O-β-D-glucopyranoside, luteolin 7-O-β-D-glucopyranoside, quercetin 3-O-β-D-glucopyranoside, apigenin 7-O-neohesperidoside, kaempferol 3-O-rutinoside, quercetin 3-O-rutinoside, kaempferol 3-O-[2-O-D-xylopyranosyl-6-O-α-L-rhamnopyranosyl]-β-D-glucopyranoside and kaempferol 3-O-[2-OD-glucopyranosyl-6-O-α-L-rhamnopyranosyl]-β-D-glucopyranoside.
- **Pharmacological action**: It is a pectoral analgesic, emollient and anthelmintic.
- **Other uses**: The plant is an industrial species used for making baskets, mats, chairs and other handmade tools. It is a wild flower.
- **Caution**: No reports.

- **Arabic name**: Sua'id, Sa'ad, Hab Al-Aziz, Hab Alzlm, Filfil Al-Sudan
- **Scientific name**: *Cyperus esculentus* Linn.
- **Common name**: Yellow Nutsedge, Nutgrass, Earth Almond
- **Family name**: Cyperaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Tubers and bulbs.
- **Chemical constituents**: Rich in protein and fat, crude lipids, sucrose, starch, crude fibres, reduced sugar, oil, pentosans, xylose, and phytic acid.
- **Pharmacological action**: It is galactagogue and cures chest inflammation.
  The tubers are touted to have some medicinal uses in the treatment of skin boils, colds, colic, stomach ulcers, and bladder and other ailments. The intake of tubers is fattening, a sexual tonic, anthelmintic and is used against bilharzia. A tuber bandage cures eczema and is antipyretic.
- **Other uses**: The roots are dried, ground and mixed with other food. Tubers are often eaten raw, cooked, ground to make a beverage or scorched, roasted and ground to make instant coffee. They are also used in ice cream, biscuits and bakery products and in food and drinks as a flavouring agent. The plant is used in the soap industry and as animal feed. It is cultivated as a food crop in different countries.
- **Caution**: The inhibitor trypsin in the plant causes toxicity in animals fed on this species.

- **Arabic name**: Su'aid
- **Scientific name**: *Cyperus laevigatus* L.
- **Common name**: Sedge
- **Family name**: Cyperaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Tubers, stalk, flowers, and rhizomes.
- **Chemical constituents**: Flavonoids, glycosides of apigenin, luteolin, tricin and quercetin. Luteolin 5-O-methyl ether and the aurones aureusidin and sulphuretin are present as aglycones.
- **Pharmacological action**: It is a cure for toothache. The stalks are crushed into fine particles and used for penis burning diseases. The stalk's powder is used for deep cuts, boils, skin ulcers and other skin diseases, and also as a snuff for hard head colds. The plant is used as a venereal aid strengthener, and flower and stalk ashes are rubbed on the tongue for general debility. The plant is a dermatological aid.
- **Other uses**: The leaves are used to weave very fine mats and hats, flexible bed or floor coverings and skirts. Stem fibres remove all impurities in liquids and are also woven into strings and ropes. The plant is an industrial species.
- **Caution**: No reports.

- **Arabic name**: Sua'id, Said Khashen, Hab Al-Aziz, Saidi
- **Scientific name**: *Cyperus longus* L.
- **Common name**: Galingale, Adrupe
- **Family name**: Cyperaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Rhizomes and tubers.
- **Chemical constituents**: The oil contains xanthorrhizol, camphor, □-curcumene, germacrone, 1-methyl-2, 3-methylene-4 isopropylcyclohexanol, and 1, 8-cineole. Alkaloids, brevicolline, brevicarine, sesquiterpenes and flavonoids are also present.
- **Pharmacological action**: It is a diuretic and anti-rheumatic plant. Its decoction, infusion or extract is a tonic, nutritive, sexual stimulant, stomachic in children and anti-constipation. It is aromatic, astringent, diaphoretic, hepatoprotective, gastric and used against intestinal ulcerations. It is included in a herbal composition for effective treatment of HIV and AIDS, and as a DPPH radical scavenger. The intake of a decoction of aromatic tubers is diuretic and cures rheumatism pains.
- **Other uses**: The plant is used in the perfume industry and in some traditional handmade tools. It is a wild flower.
- **Caution**: No reports.

- **Arabic name**: Sua'id, Said, Ge'id
- **Scientific name**: *Cyperus rotundus* L.
- **Common name**: Nutsedge, Nutgrass, Purple Nutsedge, Coco-Grass, Red Nut Sedge
- **Family name**: Cyperaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Basal bulbs, rhizomes, tubers of aromatic smell, and roots.
- **Chemical constituents**: Essential oil, linolenic acid, glycerol, eucalyptol, oleic and citric acids. Tubers contain fixed oil, essential oil with a camphor smell and bitter taste. Rhizomes contain volatile oil different for different species according to their ecology. Tubers contain a large number (up to 30) of compounds including sesqueterpenes, especially ketene, monoterpenes and aliphatic alcohols. Rhizomes and tubers also contain sugars such as glucose and fructose, a large amount of starch, cardiac glycosides, alkaloids, tannins, vitamin C, bitter materials, α-cyperone, β-selinene, cyperene, cyperotundone, patchoulenone, sugeonol, kobusone, and isokobusone.
- **Pharmacological action**: The plant is used for neuralgia and arthritis. It is a component of a herbal composition for the treatment of prostate gland and haemorrhoids diseases, and in another herbal composition to enhance the immune system and for treating diseases such as cancer, AIDS, SARS, gynaecological disorders, and for the prevention and treatment of gastric disorders.
The plant is anthelmintic, diaphoretic, detoxicant, sedative, astringent, excitant, diuretic, febrifuge, stomachic, analgesic and galactagogue. It is used for earache, bee stings, bites, toothache, gravels, paralysis and dysmenorrhoea. The rhizome is employed in the treatment of menstruation, vomiting, diarrhoea and nausea, is a muscle relaxant and is effective against many other disorders. It is a stimulant, tonic, demulcent, carminative, emmenagogue, and vermifuge. The tuber extract showed anti-malarial and antiphlogistic activity

against carrageenan-induced edema in albino rats. Its essential oil has antibiotic activity. A tuber infusion is useful for dysentery, dyspepsia, cholera, illnesses connected with childbirth or menstrual disorder. It is also used for stomach aches, nose pains, women's diseases (uterus diseases), digestive tract disorders and various haematological diseases. It alleviates spasms. Roots and tubers are ground into a powder that is used only with water.

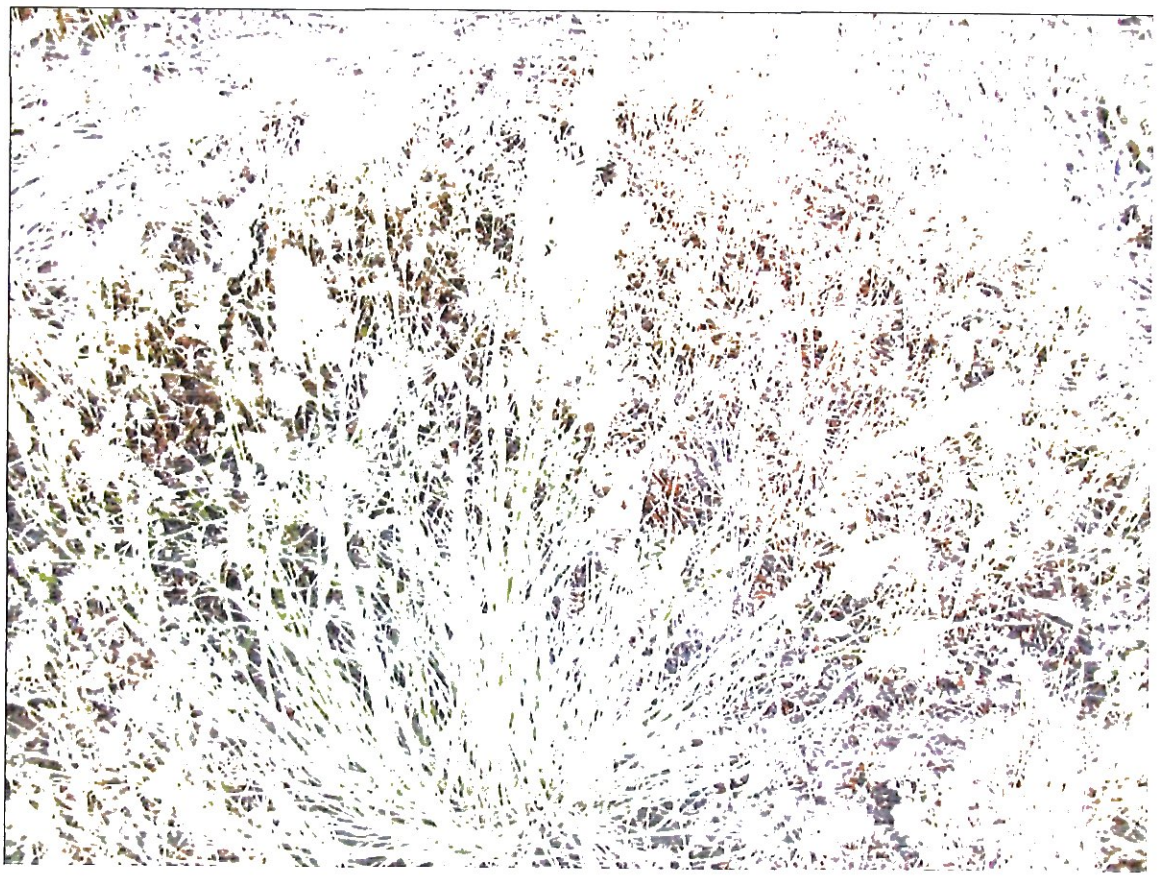
In folk medicine, nutsedge is regarded as the best clothes evaporative. It is used for gastrointestinal disorders, worms, fever, cardiac diseases, strangury, and hair growth. It is a tranquillizer, detoxicant, carminative, and aphrodisiac, and cures feeble stomachs, haematuria, and jerk. The plant fat is astringent, prevents gingivitis, ulcers and stomach decay. It cures hepatitis, headaches and palpitations. It is diuretic, wound healing, galactagogue, a flavour, good for halitosis and nose mouldiness. A root infusion is used for diarrhoea and dysentery, edema, indigestion and vomiting. Tubers are given in large doses to kill ringworms and fresh as bandages for wound healing, ulcers, skin swellings, and on nursing women's breasts to increase lactation and cure inflammation. They are used to regulate blood period and uterus cramps, and are useful for anxiety and fatigue.

Chinese medicine regards the plant as regulating vital energy and relieving the stagnancy of a depressed liver. It has antipyretic and antibacterial properties.

- **Other uses**: Tubers are made into meal and cooked as cereal. They are used in perfumes, soap and as an insect repellant. The plant is a wild flower and common weed.
- **Caution**: The plant's overuse causes blood burns and other side effects. The dose should not exceed 6-9g of tuber per day.

The plant in the field

- **Arabic name**: Al-Esbaei'i Al-Mutakatelah
- **Scientific name**: *Dactylis glomerata* L.
- **Common name**: Orchard Grass
- **Family name**: Gramineae / Poaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole plant.
- **Chemical constituents**: Alkylphenols in the aerial parts, hydroxycinnamate esters, caffeoyl esters, fibres, fats, protein, cellulose, and mineral elements.
- **Pharmacological action**: The plant is estrogenic and antiviral. It is a folk remedy for treating tumours, and kidney and bladder ailments.
- **Other uses**: A forage species.
- **Caution**: The plant contains alkaloids that harm the liver.

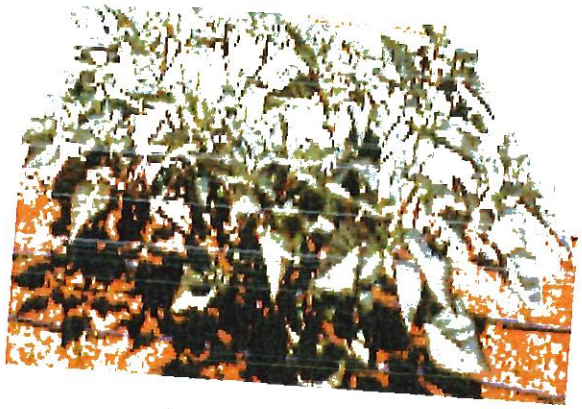


- **Arabic name**: Naim Al-Saleeb, Rejl Al-Jarbani
- **Scientific name**: *Dactyloctinum aegyptium* (L.) Willd.
- **Common name**: Crowfoot Grass
- **Family name**: Gramineae / Poaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Seeds and the whole plant.
- **Chemical constituents**: Carbohydrates, proteins, amino acids, terpenoids, alkaloids, saponins, tannins, flavonoids, steroids, fixed oils and phenols.
- **Pharmacological action**: The plant is analgesic, antipyretic, tonic, anthelmintic, astringent, anti-inflammatory, diuretic and anti-dysentery. It is a cure for wounds, pains, and ulcers, and its fresh juice is used for fevers. The plant possesses antimicrobial, antioxidant, reproductive, cytotoxic, anti-diabetic and gastrointestinal properties.
- **Other uses**: The plant is used in human food and drinks. It was previously used as a cereal substitute in famine periods. A forage and grazing plant, it can be used for lawns, fuel and as a soil binder.
- **Caution**: No reports.

- **Arabic name**: Daphne
- **Scientific name**: *Daphne gnidium* L.
- **Common name**: Daphne
- **Family name**: Thymelaeaceae
- **Growth habit**: Tree
- **Life cycle**: Perennial
- **Part/s used**: Leaves
- **Chemical constituents**: Coumarin-glycosides, among which are daphnin and aesculin.
- **Pharmacological action**: It is diuretic, and is used for toothache and skin diseases and also in hair care.
- **Other uses**: A forest tree.
- **Caution**: All parts of the plant are poisonous. Exposure to the plant's juice or sap may produce a skin rash or irritation. Skin wounds from such plants can be extremely painful, causing large blisters and skin burns. Plant ingestions, especially in large amounts, are expected to have effects on major body organs such as the liver, heart and kidneys. The plant is known to cause problems in animals. It is a genus in which some species may contain diterpene esters, e.g. daphnane derivatives. It is cytotoxic and/or co-carcinogenic.

- **Arabic name**: Datura
- **Scientific name**: *Datura metel* L.
- **Common name**: Devil's Trumpet, Downy Thorn-Apple, Indian Thornapple
- **Family name**: Solanaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Dried leaves, seeds, fruits, roots, and flowering tops.
- **Chemical constituents**: The tropane alkaloids hyoscyamines (anisodamine, hyoscine, daturine, atropine and scopolamine), the alkaloid metoludin, tannin, gums, fatty materials, salts of calcium and potassium, pyrrole derivative characterized as 2□-(3,4-dimethyl-2,5-dihydro-1H-pyrrol-2-yl)-1'-methyl ethyl pentanoate, steroidal compounds, calystegines, several sphingosine derivatives, one of which was characterized as (4E,8Z)-1-O-(□-D-glucopyranosyl)-N-(2'-hydroxyhexadecanoyl)-sphinga-4,8-dienine, withasteroids, withanolides in flowers, withanolide glucosides, daturametelin A and daturametelin B.
- **Pharmacological action**: The plant is emetic, purgative, spasmolytic, anti-asthmatic, antifungal, anti-microbial, nematicidal, anticholinergic, antispasmodic, sedative and narcotic. It is used for skin diseases, asthma, as a tincture for coughs and chronic laryngitis, neuralgia, paralysis and haemorrhoids. Its fruits are used for malaria, and alleviate cardiac pains and distress. The leaves are used for earache and their juice treats dandruff, alopecia, sores and fish bites. The seeds are useful for patchy baldness. Datura is a component in a skin whitening cosmetic composition, is anodyne, dilates the pupil of the eyes, is an anaesthetic for setting bones, treats bad bruises and wounds, freshens the blood and treats haemorrhoids. It relaxes respiratory muscles and reduces the amount of mucus excreted through the lungs.
  The plant is used for epilepsy, arthritis, cramps, dysmenorrhoea, lumbago, rheumatism, sciatica and worms. It is analgesic and anthelmintic. It is a source of allelochemicals and a poisonous species. It is also a vasodilator, and enlarges and heightens the blood flow.
  In folk medicine, the leaves are applied to boils, cure earache, and their juice is used for dandruff, hair loss and insect stings. Dried leaves are used as cigarettes for asthma.
- **Other uses**: It is a wild flower, and is used against mosquitoes and some other insects.
- **Caution**: It is a genus in which some species may contain tropane alkaloids such as atropine and scopolamine. The plant is highly toxic, causes headaches and dizziness, dries up the mucus membranes tremendously, and results in severe diarrhoea and cold perspiration. The eyes, mouth, anus, and other mucus surfaces (presumably also the vagina) in the body become uncomfortably dry. It can cause hyperpyrexia, and

increases the heart rate (tachycardia); heart attacks or irregular heartbeat could result for those with a weak heart (or a history of previous heart attacks). It is said to cause confusion and/or memory loss, constipation, mania, agitation, and drowsiness in the elderly. It causes eye pain in glaucoma sufferers. Dizziness results from low-dose atropine use. The ingestion of these plants affects major body organs such as the liver, heart and kidneys. The plant is known to cause problems in animals.



A sSingle plant

Fruits

Plant population

- **Arabic name**: Datura, Datura Sha'ika
- **Scientific name**: *Datura stramonium* L.
- **Common name**: Thornapple, Jimson Weed, Devil's Trumpet, Devil's Weed, Datura, Pricklyburr, Devil's Cucumber, Hell's Bells, Moonflower, Mad Seeds
- **Family name**: Solanaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves, seeds, flowering tops of stems, and branches.
- **Chemical constituents**: Tropane alkaloids of which the most important are hyoscyamine, hyoscine, apohyoscine, meteloidine, scopolamine and daturine. It also includes tannin, atropine, gums, chlorogenic acid, fats, potassium and calcium salts, 3.6-ditigloyloxtropan, 3-tigloyloxytropance, 3,6-ditigloyloxy hydroxytropane. In general, hyoscyamine alkaloids percentages in leaves and dried seeds are 0.3-0.5%, and seeds have a lower percentage than leaves. The plant also contains maleic acid, atropine acid (5-10%, and in seeds more than 16-26%), fatty oils, mucilage, proteins, saponins, glycosides, resins, steroids and yeast that ferments milk before seed maturation.
- **Pharmacological action**: The plant is a painkiller, antispasmodic, hallucinogenic, inhibits glandular secretion and dilates the airways. It is used in tinctures to treat asthma, bronchitis, Parkinson's disease, gastrointestinal problems, aches, abscesses, arthritis, boils, headaches, haemorrhoids, rattlesnake bites, sprains, swellings, and tumours. In large doses, it is a sedative, stimulant, deterrent, antibiotic and narcotic. It relieves the pains of rheumatism and sciatica when applied as an ointment.
  The leaves' smoke relaxes the bronchiole and throat muscles, and acts against asthma and paralysis, and thus reduces muscle stiffness and consequent symptoms. It is diuretic and used for insomnia.
  In folk medicine, datura extract is used in plunges, path, and bandages, as well as on cancerous ulcers, and it cures burns and furuncles. Datura chemicals speed up respiration and reduce bile of the digestive glands and

saliva secretions. Datura is used to reduce thyroid gland efficiency and dilates pupils during eye inspections. Essential oils of the early flowering plant or mature seed tincture are used for memorial and psychiatric disease, brain fever, as a sedative for the neural system, and against epilepsy, paralysis, dysmenorrhoea and meningitis. The smoke of the seeds' powder is effective against mosquitoes and small air insects. The lotion of a leaves infusion strengthens head hair. The plant is used in compounds that enhance sexuality. Highly toxic alkaloids cause delusions, insanity, and death, but extracts and smoke from dried leaves are used to treat asthma, and are a hallucinogen.

- **Other uses**: A wild flower.
- **Caution**: The plant is extremely toxic and precautions to protect the mouth, hands and eyes are required. Extracts of the plant must be only used under full medical supervision. All plant parts are poisonous, especially the seeds. Its use should be limited to those with experience in this field of medicine and never used for self-medication. Eating the seeds rapidly gets the plant into the nervous system, but also increases the risk of a lethal overdose. The ingestion of the plant affects major body organs such as the liver, heart and kidneys. It is known to cause problems in animals, and is poisonous and hallucinogenic. Toxicity symptoms include headaches, vomiting, dizziness, nausea, unconsciousness, vision disorders, thirst, increased urination, irregular heart pulses, mania, brain defects, severe diarrhoea, paralysis, abdominal swellings, spasm, rapid pulses, cold perspiration, loss of coordination and death.

Pre-flowering stage

- **Arabic name**: Jazar Bar'ri
- **Scientific name**: *Daucus carota* Linn.
- **Common name**: Wild Carrot, Bird's Nest, Bishop's Lace, Queen Anne's Lace
- **Family name**: Umbelliferae / Apiaceae
- **Growth habit**: Herb
- **Life cycle**: Biennial
- **Part/s used**: Root, seeds, and the whole plant.
- **Chemical constituents**: Seed oil consists of a-pinene, camphene, b-pinene, sabinene, myrcene, y-terpinene, cineole, limonene, b-bisabolene, daucarin, geranyl acetate and carotol. It also contains sesquiterpene compounds, flavones, fixed oil (13%), and is rich in vitamins B, C, D and E; mineral elements include sulfur, phosphorus, sodium, potassium, magnesium and iron. Flowers contain flavonoids (quercetin, kaempferol) and anthocyanin compounds. The plant is rich in carotenoids and vitamin B_2, and contains a daucarin compound.
- **Pharmacological action**: The whole plant is used for kidney complaints and gastric ailments. It is diuretic, digestive, antilithic, carminative, antifungal, anthelmintic and stomachic. A carrot diet alleviates cancer pain. The plant pacifies anorexia, flatulence, colic, worm infestation, diarrhoea, heartburn, hyperacidity, cough, asthma, nyctalopia, myopia, tumour, haemorrhoids, diabetes and jaundice. Wild carrot soothes the digestive tract. The leaves and seeds help settle the digestive system, mainly for gas and colic. It is useful for treating conditions associated with the kidneys and liver, mild queasiness and other symptoms associated with hangovers, and also stimulates the uterus and helps menstruation. Powdered seeds are used for contraception, coughs and congestion. The essential oil is used in cosmetic creams and reduces crimps. The oil is beneficial for dry, mature skin-types; it helps restore its smoothness and flexibility and reduces crimps. The seed oil is antioxidant and a radical scavenger, relaxes muscles and restores scarfskin flush. The daucarin formulation from the seeds is anti-spasmodic and a vasodilator similar to khellin; it is used for arteriosclerosis, dissolves bladder stones and as a diuretic. The roots' oil is used in suntan lotions, as a stimulant, and for its toning aroma, and it is a muscle relaxant, soothing agent, skin conditioner and aphrodisiac.

- **Other uses**: The flowers are aromatic in the early evening. They have a nice aroma and are an aphrodisiac. The plant is spicy, the root oil is a food colouring (yellow), and the seed's essential oil has the same sweet, earthy fragrance as the vegetable. A root decoction acts as a natural insecticide and an insect repellent.
- **Caution**: The oil may irritate sensitive skin. Leaves cause skin irritations and mild rashes in sensitive individuals. The use of wild carrot should be supervised by qualified specialists in herbal medicine.

The umbles

Flowering branches

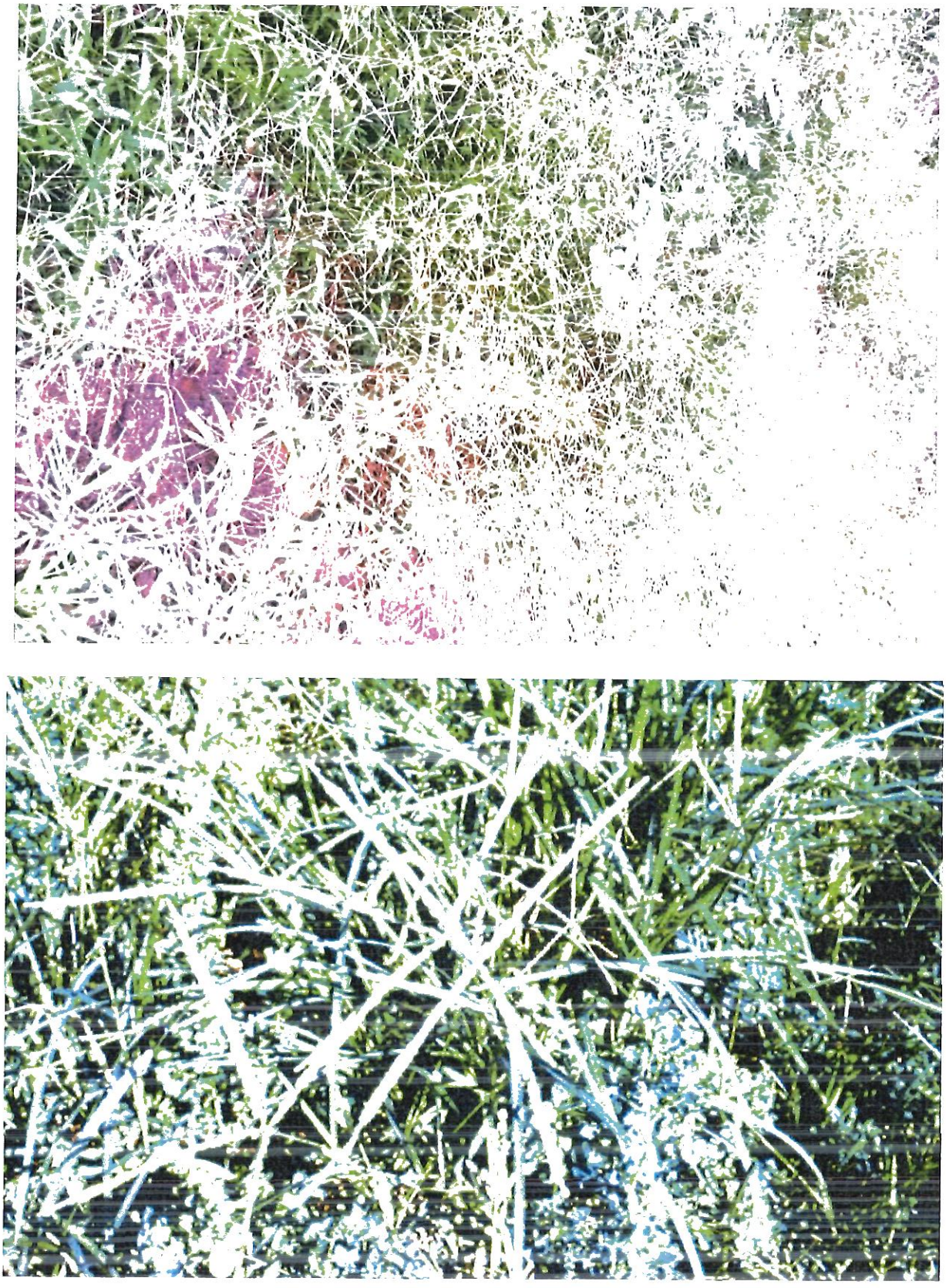
- **Arabic name**: Halfa
- **Scientific name**: *Desmostachya bipinnata* (L.) Stapf
- **Common name**: Halfa Grass, Big Cordgrass, Salt Reed-Grass
- **Family name**: Gramineae / Poaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: The whole plant, especially the oil.
- **Chemical constituents**: Camphene, isobornyl acetate, tricyclene, (+,-) trans-2,6-gamma-irone, caryophyllene diepoxide, diepoxide-iron, β-eudesmol, eseroline and calarene.
- **Pharmacological action**: The plant pacifies vitiated pitta, and is used for diarrhoea, dysentery, menorrhagia, jaundice, skin diseases, burning sensation and excessive perspiration. It is a diuretic and cures kidney disease. In folk medicine, the plant has been variously used to treat dysentery, menorrhagia, and as a diuretic.
- **Other uses**: It is a forage and an ornamental plant.
- **Caution**: No reports.

- **Arabic name**: Quronful Ghori
- **Scientific name**: *Dianthus judiacus* Bioss.
- **Common name**: Carnation
- **Family name**: Caryophyllaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole plant.
- **Chemical constituents**: Aromatic oil.
- **Pharmacological action**: It is cardiotonic and anthelmintic, and cures inflamed teeth.
- **Other uses**: A wild flower.
- **Caution**: No reports.

Dianthus sp.

- **Arabic name:** Qorunful Mnaqat, Qorunful
- **Scientific name**: *Dianthus strictus* Banks and Sol.
- **Common name**: Wild Pink, Carnation
- **Family name**: Caryophyllaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole plant, flowers, fruits and leaves.
- **Chemical constituents**: Aromatic volatile oil.
- **Pharmacological action**: It is traditionally used as an external hypertensive, diuretic, tonic, and antibacterial, and it also enhances hair growth. The fruits are used for toothache.
- **Other uses**: Leaves and flowers are pounded and prepared as a tea.
- **Caution**: No reports.

- **Arabic name**: Onoq Al-Najel, Digitaria, Dfera, Dafra, Najeel Hawli
- **Scientific name**: *Digitaria sanquinalis* (L.) Scop.
- **Common name**: Crabgrass
- **Family name**: Gramineae / Poaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant and roots.
- **Chemical constituents**: Veratric acid, maltol, and (−)-loliolide.
- **Pharmacological action**: It is emetic and ophthalmic. A decoction of the plant is used to treat gonorrhoea. The plant is a folk remedy for cataract formation and debility.
- **Other uses**: A forage species and common herb.
- **Caution**: No reports.



Digitaria sanquinalis in an alfalfa field

- **Arabic name**: Hwaira'a, Khafij
- **Scientific name**: *Diplotaxis acris* (Forskale) Bioss
- **Common name**: Diplotaxis
- **Family name**: Cruciferae / Brassicaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves.
- **Chemical constituents**: Unsaturated sterols, glycosides and/or triterpenes, tannins, flavonoids and carbohydrates.
- **Pharmacological action**: It has a significant antinociceptive effect at doses of 200 mg/kg^{-1}.
- **Other uses**: Young stems and leaves are edible raw or in salads.
- **Caution**: It is harmful and toxic to goats and thus should be avoided.

- **Arabic name**: Harra, Shalwah, Fujelah, Shalwa Byda
- **Scientific name**: *Diplotaxis erucoides* (L.) DC.
- **Common name**: White Rocket, White Wall Rocket
- **Family name**: Cruciferae / Brassicaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves
- **Chemical constituents**: Vitamin C, polyglycosylated flavonoids, sinigrin, 4-methylthiobutyl, and methylthioalkyl isothiocyanates.
- **Pharmacological action**: It is antiphlogistic, astringent, depurative, diuretic, digestive, emollient, tonic, stimulant, laxative and rubefacient. It is effective against microbes of the digestive system.
- **Other uses**: Young stems and leaves are edible raw or in salads. The leaves are cooked, have a mustard taste and can be added to salads.
- **Caution**: Allergy to pollen caused conjunctivitis and asthma during pollination. This species has an irritant property, and principally yields sinigrin. It is a weed and an allelopathic plant. It is poisonous and harmful to sheep, which thus avoid grazing it.

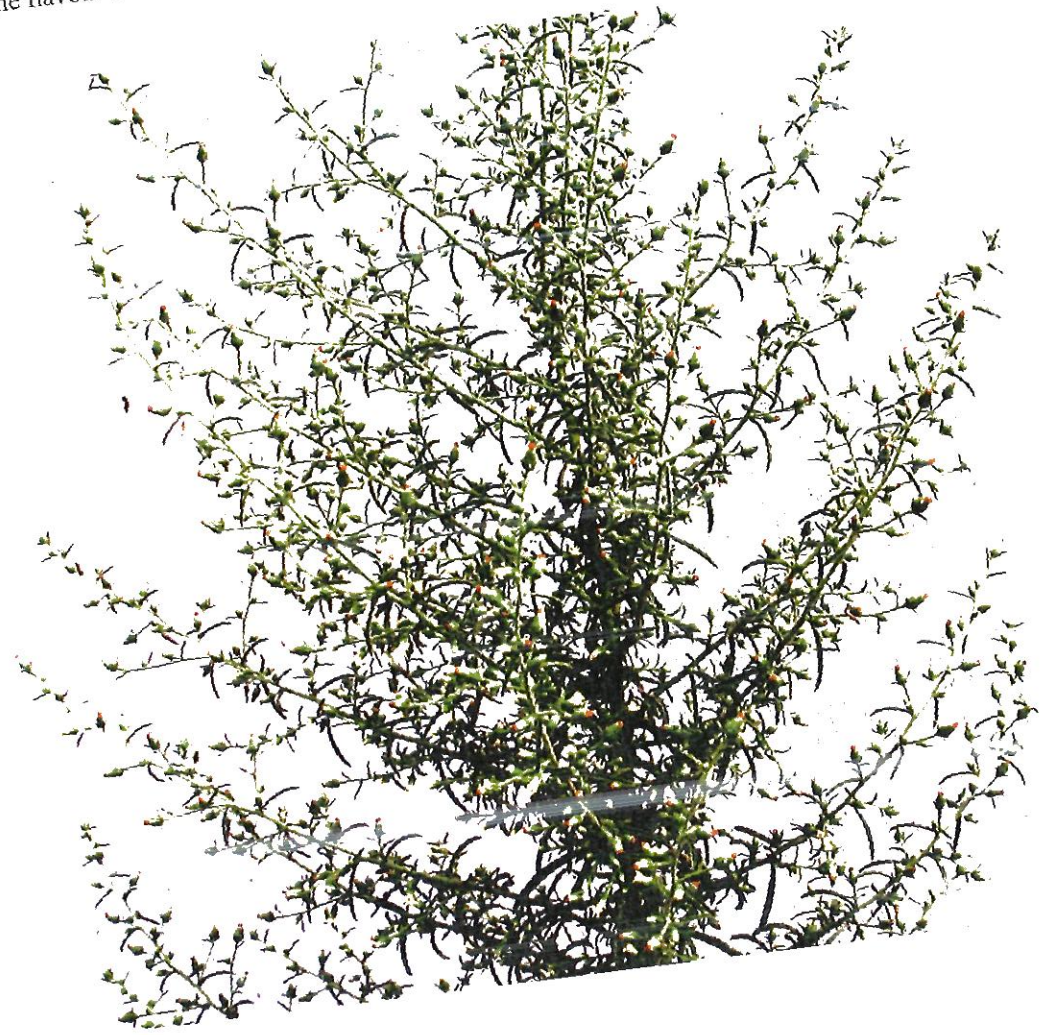
Plant population in the field

Diplotaxis sp.

- **Arabic name**: Tayoon Rafei
- **Scientific name**: *Dittrichia graveolens* (L.) Greuter
- **Common name**: Stinkwort, Stinking Fleabane
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Subshrub
- **Life cycle**: Annual or Perennial
- **Part/s used**: Aerial parts, leaves, and the plant's attractive inflorescence.
- **Chemical constituents**: Essential oil, of which the main constituents are terpenoids such as caryophyllene oxide, borneol (38.2%), bornyl acetate (14.9%) and camphene, 3,4-diethyl phenol, β-cubebene in the flowering aerial parts, flavonoids, sesquiterpenes, tannins, phenols, flavonoid and flavonol, bornyl acetate and α-cadinol in the flower extract, borneol, bornyl acetate, thymol and calarene in the leaf extract, and safrole, carvacryl acetate, vulgarone b and bornyl acetate in the root extract. Oil also contains τ-cadinol and epi-α-cadinole as its major components, and these are also the major components of stinkwort essential oil from the flowering aerial parts.
- **Pharmacological action**: The plant possesses antibacterial, antioxidant, anti-pathogenic, and sedative properties. It treats haemorrhoids, wounds, and leishmaniasis. It is implicated in cases of boils, sores and wounds. The effectiveness of the essential oil's growth inhibition against *E. coli* justifies its use in the control of diarrhoea and dysentery in humans. The essential oil has strong antimicrobial activity and notably reduced the concentration of DPPH free radicals with higher efficacy than trolox. It is used as a food source in domestic and traditional medicines for the treatment of ischemic heart disease, angina pectoris, hypoglycaemia, liver disorders, gastroduodenal diseases, ulcer, bronchial, and rheumatic complaints, migraines and skin infections.

  In folk medicine, the plant is used as a strong anti-inflammatory, anti-rheumatic, anti-tumour, antipathogen, anti-infection, and antioxidant, and is used for the treatment of leishmaniasis. The plant extract has strong antioxidant activity against free radical scavenging systems and antibacterial activity against different gram positive and negative bacteria. Stinkwort is traditionally used for the treatment of urinary tract infections, colds, wound infections, louse and some other disorders. The extract of stinkwort possesses conspicuous biological activities, such as a high bactericidal effect, and cytotoxic, ichtyotoxic and anti-proliferative effects.

- **Other uses**: The essential oil may be an alternative to more toxic synthetic antioxidants and preservatives in food products. The plant is a wild flower.
- **Caution**: The plant is known to cause allergic reactions and severe dermatitis in people who come in contact with the sticky resin. So, when pulling the plant out, it should be done with full care and while wearing gloves. This plant can cause severe contact dermatitis to humans and can kill livestock. Barbs on the fluffy-tipped seeds, which help it spread, damage animals' digestive systems. Oils in the plant also taint the flavour of the meat and milk of animals that have consumed the plants.



- **Arabic name**: Ketha El-Himar, Faqoos Al-Hameer, Buzait
- **Scientific name**: *Ecballium elaterium* (L.) A. Rich.
- ***Common name***: *Squirting Cucumber, Exploding Cucumber*
- **Family name**: Cucurbitaceae
- **Growth habit**: Herb
- ***Life cycle***: *Perennial*
- **Part/s used**: Fruit juice, and cooked fresh or dried roots.
- **Chemical constituents**: Fruits and their juice contain elaterine A (inactive), elaterine B (purgative crystallized substance), rutin, triterpenoid glycosides, and flavonoid compounds. Fatty acid is present in the roots and fruits, of which the major components are lauric, myristic, linoleic and palmitic acids, and palmitic and linoleic acids are present in the leaves. Amino acids are in the seeds, as well as ecbalic acid, ecballin and other unknown alkaloids, elateride, resin, lignin, starch, elatiran, elateric acid, proteins, lipids, sugars, and minerals. The juice of the fruit known as elaterium is present, and polysaccharide is in the pericarp and seeds. Cucurbitacins, sterols and phenolic compounds are also present.
- **Pharmacological action**: It is abortifacient, analgesic, anti-rheumatic, cardiac, and purgative. It cures kidney ailments. Cucurbitacin E exhibited a marked effect on prostate adenocarcinoma cells and moderate effects on melanoma and breast carcinoma cells. Elaterium and cucurbitacin B have preventive and curative effects against CCl_4-induced hepatotoxicity. The root extract is used to improve skin health, treat skin fungus infections, and alopecia. It is an aphrodisiac, antiscorbutic, stimulant, stomachic and diuretic and effective for hepatitis C. The fruit juice is an antiphlogistic product and its activity is based on cucurbitacin B. Curcurbitacins have anti-cancer and anti-tumour activities. In most instances the plant extract reduces viral infections, normalizes enzymes and improves the wellbeing of the patient. Cucurbitacin B has significant antiphlogistic activity.

  In folk medicine, the plant is used in different treatments, especially for sinusitis, cardiovascular diseases, and hepatitis. It has cytotoxic, anti-tumour, antiphlogistic, anti-hepatotoxic, analgesic, antipyretic, antiphlogistic, anti-rheumatic, and cardiac effects. It is a rubefacient agent in sinusitis and rheumatoid arthritis and is a strong purgative in constipation, in homeopathy, and for some digestive troubles. Unripe fruits are gathered and squeezed, and their extract is filtrated, settled down, dried, powdered (named elaterine) and made into

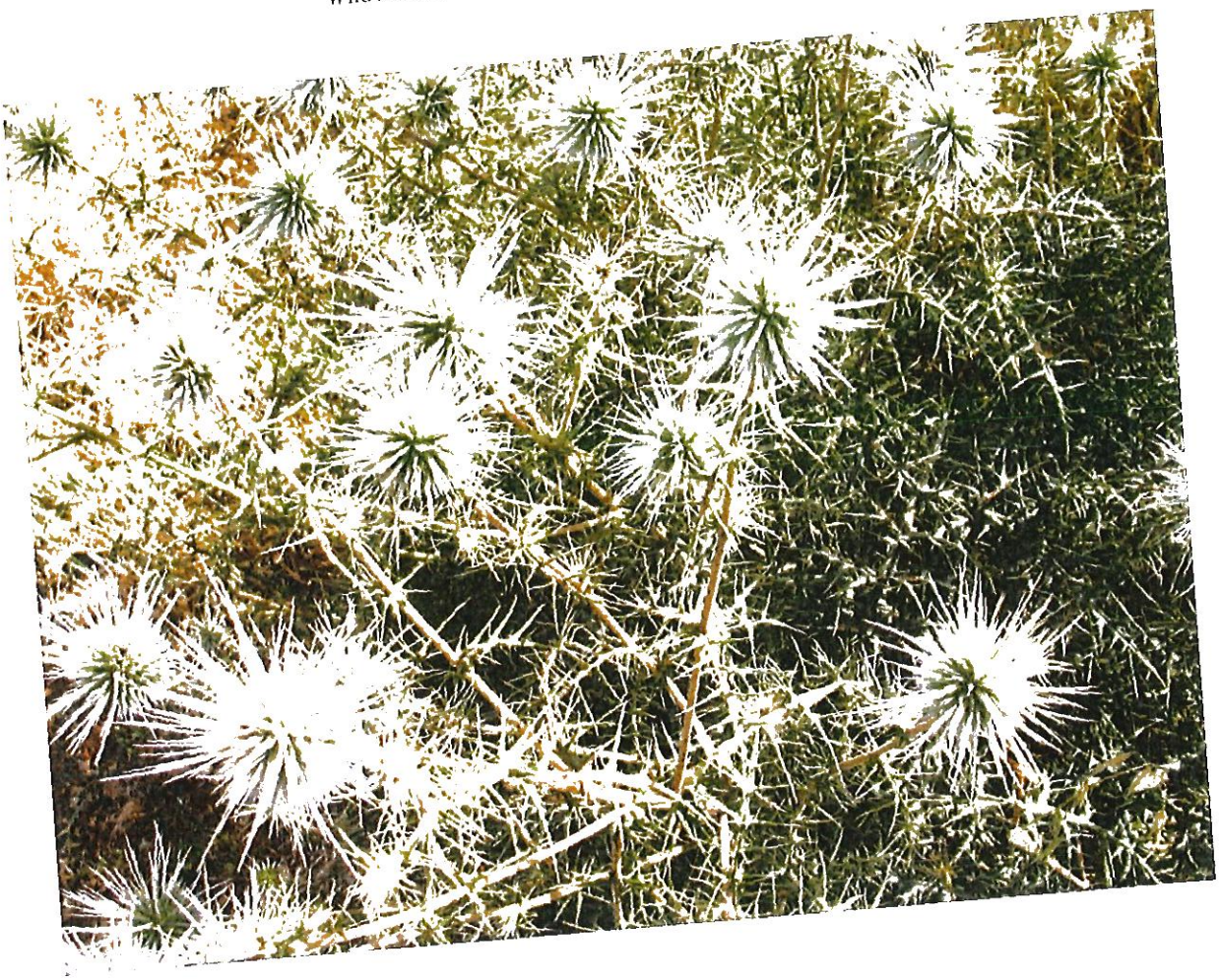
cathartic tablets. Fruits are used by the public as a medicated plaster for purulent ulcers, skin and urine diseases, liver, kidney, blood pressure, diabetes, ophthalmia and infections. The juice is used for jaundice and has been shown to reduce biliruben, a bile pigment, in the blood of animals with jaundice, and has preventive and curative effects against induced hepatotoxicity. It is also used in nose droplets against malaria and may be rubbed on breast nipples to stop a child from suckling. The fruit and root juice is diuretic. It is a powerful purgative that evacuates water from the bowels, and is therefore used in the treatment of edemas associated with kidney complaints, heart problems, paralysis and shingles. Externally, it is used to treat painful joints. The root contains analgesic materials. It treats rheumatism and dropsy.

- **Other uses**: Curcurbitacins protect cucumber tissues against infection from *Botrytis cinerea*. Its leaves are used in salads.
- **Caution**: Unripe fruit and fruit juice are poisonous; the fruit contains 3.84% w/w cucurbitacins, stems 1.34% w/w, and leaves 0.34% w/w. The plant is toxic in all parts, especially the fruits. It is not used in excessive amounts since mature fruit sap may cause blindness if it bursts in the eyes. Excessive doses have caused gastroenteritis and even death. Even very small doses of fruit juice cause intestinal colic, diarrhoea, and great harm to the pancreas. It causes high sensitivity and burns to the skin, harm to the heart and death. It should not be used by pregnant women since it can cause an abortion. It should be used with great caution and only under the supervision of a qualified practitioner.

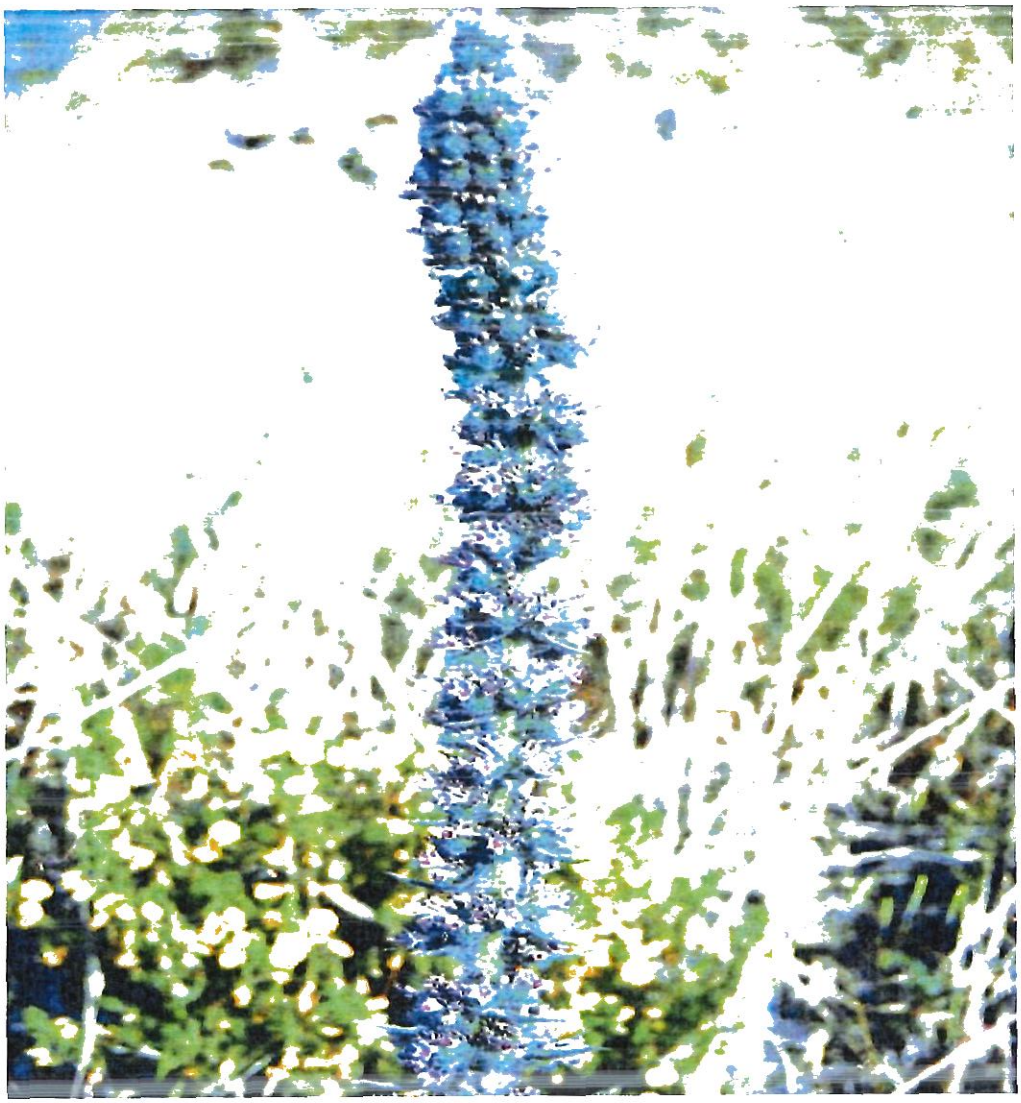
Fruiting plant in the dry region

- **Arabic name**: Abu-Rukbbah, Osheb Abu-Rukbbah, Thuneibah, Osheb Al-Ma'ai
- **Scientific name**: *Echinochloa colonum* (L.) Link
- **Common name**: Jungle Rice
- **Family name**: Gramineae / Poaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant and seeds.
- **Chemical constituents**: Protein, amino acids, and grains, which are rich in zinc and iron.
- **Pharmacological action**: It is styptic, and is used for spleen disorders and as a diuretic.
- **Other uses**: A forage and weed species.
- **Caution**: No reports.

- **Arabic name**: Qonfudyia, Al-Qonfidi Al-Azraq
- **Scientific name**: *Echinops ritro* L.
- **Common name**: Small Globe, Globe Thistle, Small Globe Thistle, Southern Globethistle, Milfoil
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Root, flowering heads, inflorescence, flowers, lateral buds, leaves, and seeds.
- **Chemical constituents**: The alkaloid echinopsine is present in fruits, as well as quinoline alkaloids, flavonoids and sesquiterpenes (in seeds), fatty acids and alkenes. Echinorine, fructan, luteolin and apigenin, echinopsidine, echinoramine I, echinorine, □-amyrin, □-amyrin acetate, sitosterol 3□-glucoside, ilicic acid, costic acid, quercetin flavonoids, chrysoeriol, rutin, luteolin 7-glucoside, chrysoeriol 7-glucoside, apigenin 7-glucuronide, luteolin 7-glucuronide, chrysoeriol 7-glucuronide, and apigenin 7-rhamnoglucoside, lipids in flowers and leafy stems include nonsaponifiable matter containing the acetates of lupeol, and a mixture of isomeric sterols including stigmasterol, campesterol, and □-sitosterol. Fatty oil contains a series of fatty acid esters, palmitate, linoleate, linolenate, oleate, myristate, stearate, laurate, arachidate, and behenate. The plant also has an aromatic oil, inulin, alkaloids, fixed oil, mineral elements, tannins, bitters, resin and vitamin K.
- **Pharmacological action**: It is a nerve tonic, general tonic and a vermifuge. The plant is used for weak sight, paralysis, and alleviates toothache, intestinal inflammations and dysenteric colic. The cineole is styptic and used for cracks in breast nipples. The echinopsine is used for muscle and optic nerve weakness, and for paralysis. It reduces chronic colds and influenza, is a tonic for the immune system and fights against bacterial and viral infections. It helps with rapid healing from skin diseases. It is a detoxicant and induces bile. All plant parts cure haemorrhoids and stomach disorders. The plant is used for mastitis, and as a poultice for finger and toe swellings. It reduces the swelling of lymphatic glands in children. It is an appetizer, and its root is antiphlogistic and a galactagogue. It is used in the treatment of breast abscesses with inflammation, lack of milk in nursing mothers and breast distension.
- **Other uses**: A wild flower plant.
- **Caution**: It is harmful to the kidneys. Excessive doses of echinopsine cause paralysis.



- **Arabic name**: Qonfudyia, Shook Al-Gamal
- **Scientific name**: *Echinops spinosissimum* L.
- **Common name**: Globe Thistle
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Root, aerial parts of the plants, and the whole plant.
- **Chemical constituents**: Tannins, flavonoids, alkaloids, glycosides, cyanogenetic glycosides, reducing sugar and several other aromatic compounds and secondary metabolites.
- **Pharmacological action**: It is used for colds, kidney stones and diabetes. The root is antiphlogistic and a galactagogue. It is antimicrobial, used to treat breast abscesses with inflammation, mastitis, milk deficiency in nursing mothers and breast distension. A root decoction mixed with olive oil is styptic. A stem, leaves and roots decoction is diuretic and used for liver diseases.
- **Other uses**: A wild flower.
- **Caution**: No reports.



- **Arabic name**: Hamim
- **Scientific name**: *Echium glomeratum* Poir
- **Common name**: Tail Viper's-Bugloss
- **Family name**: Boraginaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole plant.
- **Chemical constituents**: Pyrrolizidine alkaloids (7S, 8R)-petranine, (7S, 8S)-petranine, (7R, 8R)-petranine or (7R, 8S)-petranine, 7-angeloylretronecine and 9-angeloylretronecine.
- **Pharmacological action**: It is an aphrodisiac, cures snake bites and arteriosclerosis, and has similar effects to sympathomimetics.
- **Other uses**: A wild flower.
- **Caution**: No reports.

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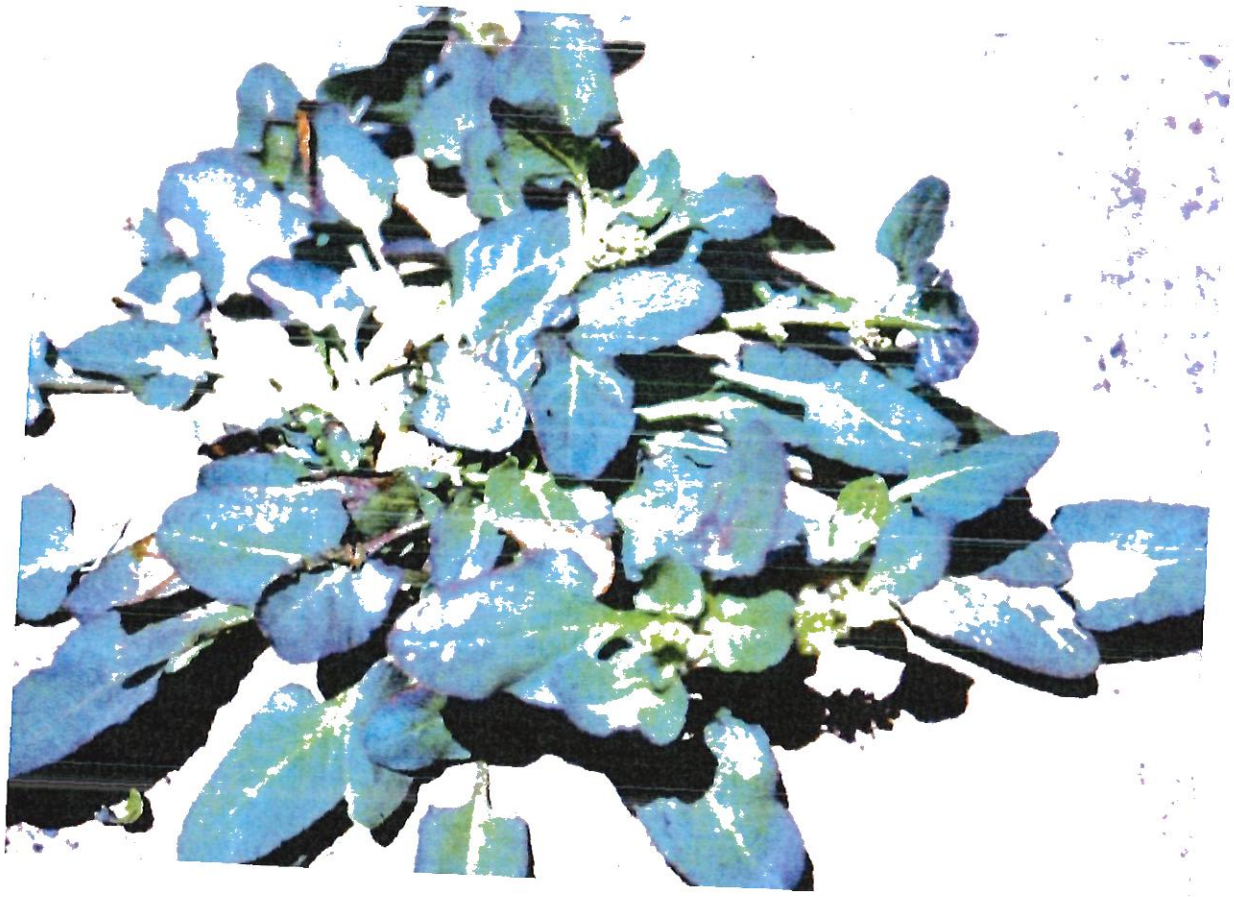
- **Arabic name**: Mosais, Zahrat Al-Afa'a
- **Scientific name**: *Echium judaeum* Lacaita
- **Common name**: Bugloss, Jordan Viper's Bugloss
- **Family name**: Boraginaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Roots and flowering heads.
- **Chemical constituents**: Volatile oil, glycosides, amides, polyacetylenes function as an antibiotic, inulin, cenoglaucin, conolucin, tannins, and pyrolisidin alkaloids (echidemin, echiodemin).
- **Pharmacological action**: The plant is diaphoretic, analgesic, anti-microbes, anti-fungi, expectorant, laxative, diuretic and an aphrodisiac. It is used for snake bites, fever, wounds (as an ointment), colds, hepatitis, herpes, jaundice, kidney and kidney stones, joint ailments and skin problems. It is a stimulant for the immune and lymphatic systems.
- **Other uses**: A wild flower.
- **Caution**: Some species of this genus may contain toxic unsaturated pyrrolizidine alkaloids. It causes toxicity, symptoms of which include disturbed motion, dizziness, blindness, liver damage, and photosensitivity in animals including goats and cows.

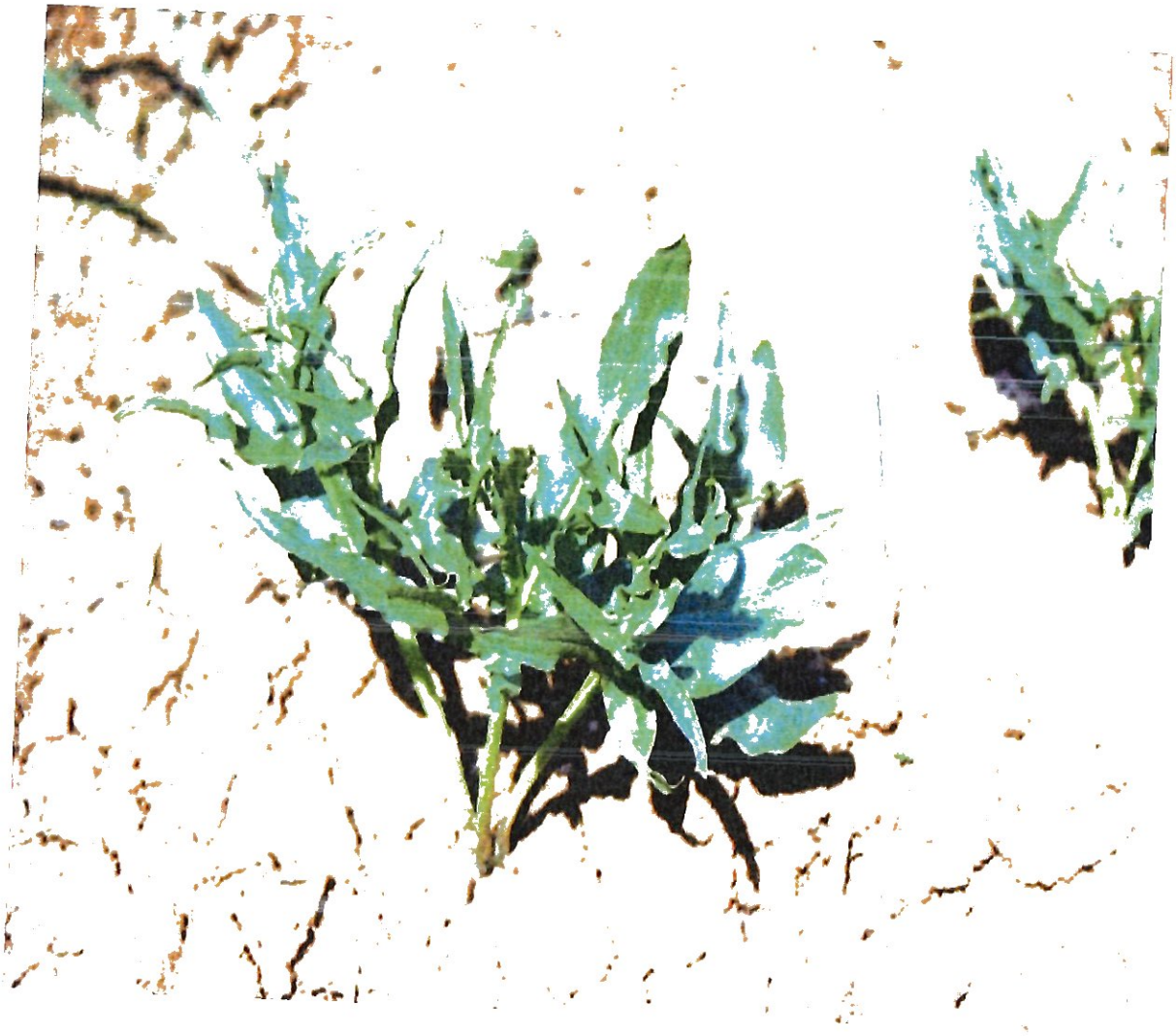


- **Arabic name**: Shajarat Al-Ajooz, Genzab, Qla'i, Dirs Al-Ajooz
- **Scientific name**: *Emex spinosa* (L.) Campd.
- **Common name**: Prickly Dock, Devil's Thorn
- **Family name**: Polygonaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant.
- **Chemical constituents**: Anthraquinones (Aloe-emodin-O-glucoside, emodin and nataloin (1, 2, 8-trihydroxy, 6-methyl, 10-anthrone-C-glucoside), together with β-sitosterol and β-sitosterol-O-β-D-glucoside.
- **Pharmacological action**: It is antioxidant, diuretic, purgative and digestive. It is used for dyspepsia. Aloe-emodin glucoside showed anticancer activity against HCT, HepG-2, MCF-7 and Caco-2 cell lines. The plant is cytotoxic and its extracts have antimicrobial activity.
- **Other uses**: The plant is edible like spinach. Its extracts exhibited antibacterial activity against *Staphylococcus aureus*, *Streptococcus pyogenes* and *Bacillus subtilis*. The plant is a wild flower.
- **Caution**: No reports.

The plant carries spiny fruits

- **Arabic name**: Ja'deh, Ja'deh Sebian, Jaadah, Smaigha
- **Scientific name**: *Eminium spiculatum* (Blume) Kuntze
- **Common name**: Eminium
- **Family name**: Araceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves, bulbils, and the whole plant.
- **Chemical constituents:** Luteolin, luteolin-7-O-glycoside, isoorientin, chrysoeriol glycoside, vitexin, β-sitosterol. Leaves and bulbotubers contain biologically active compounds including indole alkaloids, saponins and flavonoids.
- **Pharmacological action**: The dry and granulated underground part of the plant is smoked in the treatment of syphilitic affections of the nose and larynx. The water or milk infusion of bulbotubers is used for the treatment of rheumatism, arthralgia and radiculitis. An infusion of bulbotubers is used for pulmonary tuberculosis. It has antiphlogistic compounds and anti-carcinogenic action and prevents the development of tumours.
- **Other uses**: Leaves are eaten fresh or dry, but after being cooked are exactly like *Arum*.
- **Caution**: The plant is poisonous when raw, due to the presence of calcium oxalate crystals. If eaten raw, this toxin creates mouth sensations and has a sticking effect on the mouth and tongue. However, the toxin is

easily destroyed by thoroughly cooking or drying the plant. Although no specific mention has been made for this plant, it is wise to assume that it is poisonous in its raw state.



Vegetative growth stage

- **Arabic name**: Alanda
- **Scientific name**: *Ephedra alata* Decne
- **Common name**: Joint Pine
- **Family name**: Ephedraceae
- **Growth habit**: Climber shrub
- **Life cycle**: Perennial
- **Part/s used**: Branches, terminal tops, stems, fruits, and, the whole plant,.
- **Chemical constituents**: The plant contains p-coumaric acid, the furanofuran lignan (□)-syringaresinol and the digalloylglucose, nilocitin, and a new natural alkaloid, ephedralone, flavonol glucosides namely, herbacetin 8-Me ether 3-O-glucoside-7-O-rutinoside and herbacetin 7-O-(6"-quinylglucoside). The known flavonoids are vicenin, lucenin, kaempferol 3-rhamnoside, quercetin 3-rhamnoside, and herbacetin 7-glucoside, ephedrine, and pseudoephedrine.
- **Pharmacological action**: It is an astringent and cardiac stimulant, and is also used for asthma, hay fever, malaria, toxicity resulting from anodynes, ulcers, tuberculosis, common colds, sea diseases and many other complaints of the respiratory system. The alkaloids ephedrine and pseudoephedrine are sympathomimetics with stimulant and decongestant qualities.
- **Other uses**: A forage and forestry species.
- **Caution**: The plant stimulates the circulatory system and thus leads to an increase in heart pulses, vasoconstriction and increases in blood pressure, and it also stimulates the central nervous system. Recently, *Ephedra*-derived products have been found to be hazardous and may cause cardiac dysfunction and even death when used excessively. Some species may contain phenylethylamine alkaloids such as ephedrine and pseudoephedrine.

Fruits

- **Arabic name**: Alanda, Adar, Ephedra
- **Scientific name**: *Ephedra alte* C. A. Mey
- **Common name**: Joint Pine
- **Family name**: Ephedraceae
- **Growth habit**: Climber shrub
- **Life cycle**: Perennial
- **Part/s used**: Vegetative parts, stems, and fruits.
- **Chemical constituents**: Flavonoids, ephedrine, pseudoephedrine, and ephedrine derivatives.
- **Pharmacological action**: It is anti-asthmatic, a bronchodilator, hypertensive, and a peripheral vasoconstrictor. Cerebral is a stimulant and cardiac stimulant.
  Traditionally, the plant has been used for asthma, hay fever, common colds, and influenza and as a tonic for the nerve system. It has a role in destroying kidney stones, and as an anti-diarrhoeal, sympathomimetic with stimulant and a decongestant. Ephedrine is used for asthma and many other complaints of the respiratory system. It is effective for chest and nervous system problems. It is publically believed that *Ephedra* cures cancer.
- **Other uses**: A forage and wild flower species.
- **Caution**: Some species may contain phenylethylamine alkaloids such as ephedrine and pseudoephedrine. It increases heart pulses and blood pressure and contracts blood vessels; it also stimulates the central nervous system. The plant should never be used by patients who take inhibitors of monoamine oxidase for depression. It should be avoided by those suffering from hypertension, vasoconstriction and cornea blindness.

E.alte = E. aphylla

Ephedra sinaica

Ephedra foliata

- **Arabic name**: Sq Al-Gurb
- **Scientific name**: *Epilobium angustifolium* L.
- **Common name**: Fireweed, Great Willowherb, Rosebay Willowherb
- **Family name**: Onagraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant, aerial parts, leaves, and root.
- **Chemical constituents**: Phenolic compounds, tannins, mucilage, pectin, flavonoids such as guaiaverin, isoquercitrin, myricitrin, quercitrin, quercitrin-3-O-beta-D-glucuronide, and the steroids beta-sitosterol and beta-sitosterol caproate.
- **Pharmacological action**: The plant is anti-inflammatory, antispasmodic, astringent, demulcent, emollient, hypnotic, laxative and tonic. It is a cure for diarrhoea, mucus colitis, irritable bowel syndrome, prostate problems, epilepsy and mental disorders. It is also used as a poultice on ulcers and an ointment to soothe skin problems in children. A tea made from the leaves and roots is used as a folk remedy for dysentery and abdominal cramps and the infusion or tea is used for prostate and urinary problems. A poultice of the peeled roots is applied to burns, skin sores, swellings, and boils, as a tissue contractor, and to soften and soothe. Topically, the plant has been used traditionally as a cleansing and a healing agent to treat minor burns, skin rashes, ulcers, pus-filled boils or cuts, and numerous other skin irritations and afflictions. The powdered inner cortex, when rubbed on the hands and face, protects from the cold. A tea of roots and inner cortex is given as an enema to babies for constipation.
- ***Other uses***: Young leaves and shoot tips are used raw in salads or cooked as a vegetable. They are a good source of vitamins A and C, and make a good asparagus substitute. The root is used raw, cooked or dried and ground into a powder. It is used in the spring and has a sweet taste. Flower stalks are used raw, cooked or added to salads. They are slightly sweet, tender and pleasing to eat, and are used as a flavouring in soups.
- **Caution**: The plant causes epilepsy and mental disorders. The stems are a good laxative, but are best not eaten on an empty stomach.

- **Arabic name**: Thanab Al-Khail, Kenbat, Thayl Al-Hussan. Amsukh, Muqatta'a, Muwassaleh
- **Scientific name**: *Equisetum arvense* L.
- **Common name**: False Horsetail, Common Horsetail
- **Family name**: Equisetaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Fresh and dried stems.
- **Chemical constituents**: Silicic acid, traces of nicotine, equisetin and balostrien alkaloids, flavon glycosides, flavonoids, saponins, starch, tannins, vitamin E, mineral salts, bitter materials, resin, pectin, apigenin, luteolin, naringenin, aromadendrin, taxifolin, and protocatechuic and caffeic acids.
- **Pharmacological action**: The plant is antiseptic, antidiabetic, depurative, hypotensive and diuretic. It is used for kidney stones, renal disorders, gout, menstruation disorders, and kidney and prostate problems. The plant is added to tea mixtures for bladder and spleen problems, and a plant extract is used in hair preparations for the prevention of grey hairs. It is also used for arteriosclerosis, internal and external bleeding, tuberculosis, as a gargle for pharyngitis, and as poultices or bath preparations for difficult wounds, skin rashes and cancers. It is a cure for asthma, chronic coughs, rheumatism, arthritis, bleeding piles and lead toxicity. A leaf decoction is antiphlogistic, and is used against menorrhagia and skin diseases such as acne and eczema. It is haemostatic (a decoction is used for uterine haemorrhages), anti-nose bleeding, a genitourinary astringent, a prophylactic causing mild leucocytosis, styptic and vulnerary. It is rich in minerals. The leaf juice is diuretic and anti-inflammatory.
- **Other uses**: The stem is used for abrasion, and can be used for polishing and wood excavation.
- **Caution**: The plant is poisonous to animals. Certain species contain the piperidine alkaloid palustrine. A medical doctor must be consulted in cases of haematuria or any sudden changes in menstruation leading to severe bleeding. The plant contains the enzyme thiaminase, which breaks down vitamin B. Although there are no reports on its harmful effects, its use is forbidden in Canada except for its products that are free from compounds similar to thiaminase.

- **Arabic name**: Halfa Hawliya
- **Scientific name**: *Eragrostis cilianensis* (All.) Vign.-Lut.
- **Common name**: Spreading Love-Grass, Stinkgrass, Candy Grass, Gray Lovegrass
- **Family name**: Gramineae / Poaceae
- **Growth habit**: Herb
- **Life cycle:** Annual
- **Part/s used**: Seeds and root.
- **Chemical constituents**: Unknown.
- **Pharmacological action**: A root decoction is taken as a treatment against flu in the event of an epidemic.
- **Other uses**: Its seeds are used as a source of food, and the plant is sometimes used in soil reclamation schemes. It is made into palliasses, and plaited into circular covers for pots holding milk or millet mash in the process of fermentation. The straw is made into mats. It is an animal feed rich in organic matter.
- **Caution**: No reports.

- **Arabic name**: Hajanbal
- **Scientific name**: *Eremostachys laciniata* (L.) Bunge
- **Common name**: Desert Spike
- **Family name**: Labiatae / Lamiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Aerial parts, flowers, and rhizomes.
- **Chemical constituents**: Aromatic oil made from non-cyclic hydrocarbons, terpenoids, monoterpene hydrocarbons, amine group before flowering, and limonene (main component). Also contains sesquiterpene hydrocarbons, α-copaene, oxygenated monoterpenes, oxygenated sesquiterpenes, phenols, iridoids, alkaloids, coumarins, flavonoids, mono-and diterpene glycosides, ferulic acid derivatives, phenylethanoid glycosides, theoxygenated flavonoid loasifolin and iridoid furanolabdane.
- **Pharmacological action**: It is an analgesic, narcotic and an emollient (rhizomes) for scarfskin and skin. It alleviates rheumatism pain. Irioides included with many herbs are used in folk medicine as a stimulant, bitter, tonic, sedative, and antipyretic, and are used for wound healing, skin disorders, hypotension, and coughs.

These compounds show a wide range of biological activities: they are hypolipidemic, hypoglycaemic, antioxidant, antidepressant, anti-hepatotoxic, cardiovascular, anti-inflammatory, anti-spasmodic, anti-tumour, anti-virus, antiseptic and cathartic.

- **Other uses**: A wild flower.
- **Caution**: No reports.

Population in the field

- **Arabic name**: Nashash Al-Thuban, Sheikh Al-Jabal, Yerba
- **Scientific name**: *Erigeron crispus* Pourr
- **Common name**: Fleabane
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves and roots.
- **Chemical constituents**: Essential oil, tannins, gallic acids, and bitters.
- **Pharmacological action**: It is slightly tonic, diuretic and astringent. The infusion is efficient for gravel, diabetes, dropsical affections, dysuria in children, painful micturition, and nephritic affections; it arrests profuse watery secretions from the gastrointestinal and renal tracts, and is used for diarrhoea, cholera, bronchial disorders, bloody expectoration, leucorrhoea and hyper-urination. An infusion is used for haemorrhages from the stomach, bowels, bladder, and kidneys, and is useful for metrorrhagia. The volatile oil is applied to haemorrhoids and bleeding from small wounds, and for rheumatism, boils, tumours, sore throats, dysentery, haemoptysis, haematemesis, and haematuria; it is also used for uterine haemorrhages, menorrhagia and gonorrhoea.
  In folk medicine, the cataplasm of the fresh plant is applied to wounds, contusions, and dislocations. The leaves are used for rheumatism or lumbago, and to prevent overly rapid conception. A root decoction is reported to be a protective medicine after childbirth.
- **Other uses**: It is a wild flower and common weed.
- **Caution**: No reports.

Erigeron crispus

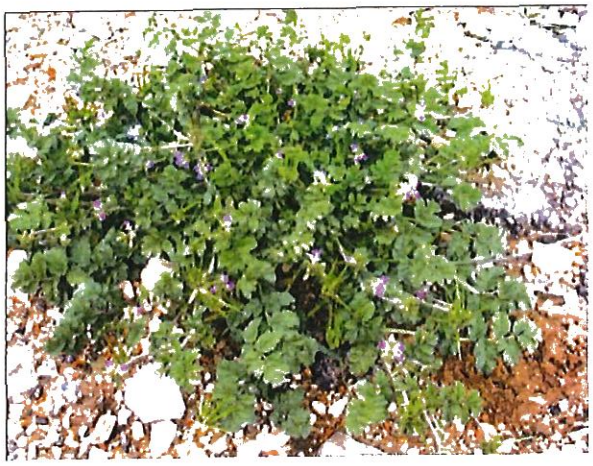
- **Arabic name**: Bukhtla, Ibrat Al-Ajooz
- **Scientific name**: *Erodium cicutarium* (L.) L'Her
- **Common name**: Pinweed, Storksbill, Red-Stem Filaree, Common Storksbill
- **Family name**: Geraniaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Flowering branches, seeds, leaves, roots, and the whole herb.
- **Chemical constituents**: Saponin, tannin, tyramine, coffeine, flavonoid, choline, anthocyanin, oil, minerals and gallic acid. The plant also contains tryptophan, estrogens, food metabolism inhibitors and HCN. Polyphenolic compounds, brevifolin carboxylic acid, brevifolin, ellagic acid, methyl gallate, gallic acid and protocatechuic acid are also present.
- **Pharmacological action**: It is styptic, antiphlogistic, diuretic and haemostatic. It helps to stop uterine haemorrhages and is used for afterbirth, and it is astringent, anti-constipation, anti-diarrhoeal, and a cure for menorrhagia and uterine, urinary and genital disorders. The plant is useful for diabetes, throat disease, tonsillitis and is diuretic. Seed poultices cure scurvy.
- **Other uses**: The fruits are edible. The plant is a wild flower and weed.
- **Caution**: High doses are hypotensive, and even low doses lower blood pressure. It causes photosensitivity, drunk walking and weakness in animals' legs.

- **Arabic name**: Ibrat Al-Ajooz, Ibrat Al-Ajooz Al-Kabeirah
- **Scientific name**: *Erodium gruinum* (L.) L'Her.
- **Common name**: Storksbill, Crane Storksbill
- **Family name**: Geraniaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant.
- **Chemical constituents**: Polyphenolic compounds, brevifolin carboxylic acid, brevifolin, ellagic acid, and protocatechuic acid.
- **Pharmacological action**: The whole plant is astringent and anti-bleeding. It has been used medicinally to control mild uterine and internal bleeding, for urine inductions, and against water retention, rheumatism and gout. It is not considered a potent plant; a fair amount is needed for an effect, depending on the use. Storksbill is a traditional afterbirth remedy in certain parts of the world, and is used to decrease bleeding and help prevent infection. The root and leaves have been eaten by nursing mothers to increase the flow of milk. They can be used for joint inflammations when a fair amount of tea is consumed and the wet leaves are used as a moist, warm or hot mass of plant material for several days, with the swellings usually subsiding by the third or fourth day.
- **Other uses**: Young fruits (schizocarps) are edible raw. A green dye is obtained from the whole plant. The dried plant powder can be mixed with watermelon seeds during storage and planting in order to prevent watermelon disease.
- **Caution**: No reports.

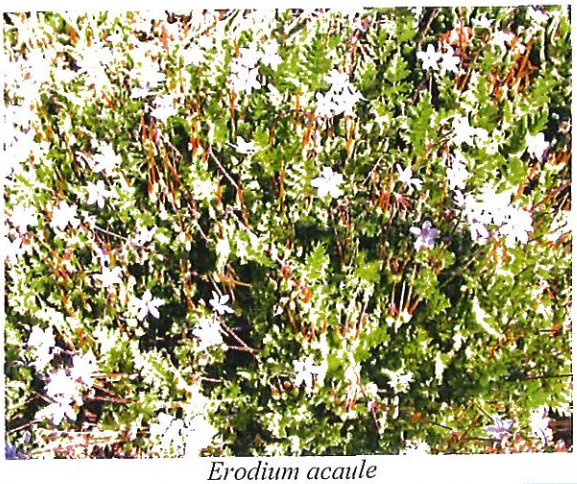
Population in the field

- **Arabic name**: Ibrat Al-Ajooz, Ibrat Al-Ajooz Al-Kabeirah
- **Scientific name**: *Erodium hirtum* (Forssk.) Willd.
- **Common name**: Storksbill
- **Family name**: Geraniaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Root
- **Chemical constituents**: Phenolic content, total flavonoids, condensed tannins, 2,2-diphenyl-1-picrylhydrazyl, and peroxidation of linoleic acid.
- **Pharmacological action**: It has antioxidant potential and antimicrobial activities. It is used in traditional medicine and in the pharmaceutical industry.
- **Other uses**: The root is edible. A green dye can be obtained from the whole plant.
- **Caution**: No reports.

- **Arabic name**: Ibrat Al-Ajooz Al-Khabazi
- **Scientific name**: *Erodium malacoides* (L.) L'Her
- **Common name**: Mallow Storksbill, Mediterranean Storksbill, Redstem Storksbill, California Filaree, Cutleaf Filaree, Filaree, Heron Bill, Redstem, Redstem Filaree, Storksbill
- **Family name**: Geraniaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves
- **Chemical constituents**: The methanolic extract afforded a flavonoid (kaempferol-3,7-diglucoside) and the diol C16H34O2, characterized as 1,7-dihydroxyhexadecan.
- **Pharmacological action**: The plant is used as a cure for injuries and for leg and hand cracks.
- **Other uses**: A green dye can be obtained from the whole plant. It is a wild flower.
- **Caution**: No reports.



Erodium malacoides



Erodium acaule

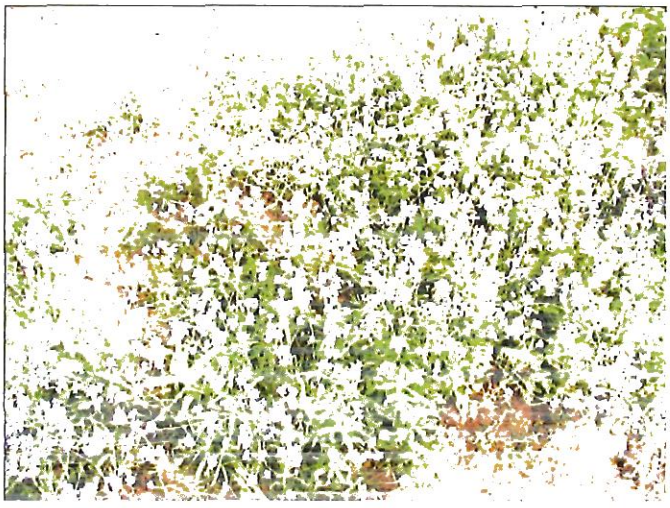
Other *Erodium* spp.

- **Arabic name**: Jarjeer
- **Scientific name**: *Eruca sativa* Mill
- **Common name**: Garden Rocket, Rocket, Arugula
- **Family name**: Cruciferae / Brassicaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Fresh, young leaves, pre-flowering twigs, and seeds.
- **Chemical constituents**: Volatile oil, heterosides carotenoids, vitamins A and C, iron, fibres, mustard substance, mineral salts (iodine, sulfur and iron), volatile oil, carotenoids, flavonoids and glucosinolate (4-mercaptobutyl glucosinolate). Leaves contain 67 volatile components; the main constituents are 4-(methylthio) butyl isothiocyanate and 5-(methylthio) pentanonitrile, amino acids, fatty acids, quercetin, pentosans, furfural and taramira.
- **Pharmacological action**: The plant is antioxidant, antimicrobial (seeds' volatile oil), antibacterial, anti-scurvy, used against burns, anti-rheumatism, expectorant, hypoglycaemic, and used for pneumonia. It is a cholagogue, a stomach and intestine cleanser, aphrodisiac, diuretic, rubefacient, a hair growth stimulant, anti-phlegm and stomachic. The taramira in the seeds has insecticidal effects. The plant is used for digestive problems and anaemia, and is supportive for lymphatic conditions and scrofula (tuberculosis of bones or the lymphatic system). The plant is used for impotence and alopecia, and as a plaster to draw out poisons, including scorpion venom. The seeds are stomachic and a remedy for insanity. It is a bitter, pungent, tonic herb with a peppery flavour. Its oils are used for pulled muscles.
  In folk medicine, the seeds are used to increase sexual activity, and the oil is used as a hair tonic and for beauty, and as an anti-dandruff, antimicrobial, aphrodisiac and rubefacient. An infusion of leaves is used against tooth decay, as a depurative and against liver and kidney diseases. Plant juice is recommended for nicotine toxicities, and helps digestion and bile release if used in moderate amounts as an extract or in salads; it also cures scrofula and bone tuberculosis. The plant is commonly used by diabetics; the oil is strengthening, nutritious, uretic and digestive.
- **Other uses**: Raw leaves and young stems are edible in salads. Fresh leaves or sprouts are consumed for their typical spicy taste.

❖ ***Caution***: *Excessive use causes digestion disorders and bladder burn. The plant is diuretic and cholagogue,* therefore pregnant women as well as struma patients should avoid it where possible.

Plant populations in the field

- **Arabic name**: Sleihi, Sleih, Ghara'a
- **Scientific name**: *Erucaria hispanica* (L.) Druce
- **Common name**: Erucaria
- **Family name**: Cruciferae / Brassicaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant.
- **Chemical constituents**: Luteolin-6, 8-di-C-β, kaempferol-3-O-β-glucopyranoside-7-O-α-rhamnopyranoside, glucopyranoside [lucenin], luteolin-8-C-□-D-glucopyranoside [orientin], and aromatic oil.
- **Pharmacological action**: It is depurative to the digestive system. The plant's methyl extract is cytotoxic and some other isolated compounds from the plant showed anti-cancer effects on breast and liver cancers.
- **Other uses**: It is a potherb and a salad plant. It is regarded as a wild flower and weed.
- **Caution**: No reports.



Plant population

- **Arabic name**: Shendab, Qurssa'ani
- **Scientific name**: *Eryngium campestre* L.
- **Common name**: Field Eryngo
- **Family name**: Umbelliferae / Apiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Fresh and dried leaves and roots at least two years old, young plants at the flowering stage, and rhizomes.
- **Chemical constituents**: Mineral salts (of potassium, sodium, calcium), saponins, deltion, marmesin, quercitol,3-(b-D-glucopyranosyloxymethyl)-2,4,4-trimethyl-2,5-cyclohexadien-1,1-(b-D-glucopyranosyloxy-3-methoxy-5-hydroxy benzene), b-sitosterol, b-sitosterol-b-D-glucopyranose, mannitol and dulcitol. The essential oil (0.09% in fresh herb) contains furocoumarins (bergapten 0.014% in fruits). Polyines from the falcarinon type (falcarinon, falcarinolon) are also present.
- **Pharmacological action**: The plant is very rich in antioxidants and is nutritive. The root is antispasmodic, aromatic, diaphoretic, diuretic, an expectorant, galactofuge, stimulant and antilithic. It is very useful in advanced stages of pulmonary consumption, and is used to treat whooping coughs and skin complaints. It is also useful for paralysis and chronic nervous diseases, both simple nervousness and delirium produced by diseases. It acts on the kidneys and is serviceable in scurvy complaints. It is good in cases of bladder disease, obstructions of the liver and jaundice. It operates as a good restorative. It has been pronounced to be balsamic, and when bruised and applied outwardly, it is good for bruises and the 'king's evil', and when bruised and boiled in hog's fat and applied to broken bones and thorns in the flesh, it draws the latter out and heals up the wound again. It is used in hypoglycaemic treatments.
  The plant's decoction is stomachic, and is used for dropsy, bladder stones, urinary disorders; it is also an appetizer and nutritive. It is also used for albuminuria, bronchitis, and rheumatism and enhances sexuality. The plant's drink is useful and cures liver pain, insect stings, deadly toxicants and scorpion and snake bites. It reduces and dissolves tumours and furuncles. It is a throat emollient, and is useful for pleurisy and chest ailments. A cooked plant drink is useful for abdominal swellings and flutiness, and is hypoglycaemic.
- **Other uses**: The whole plant is edible as a vegetable. It is a wild flower.
- **Caution:** It is advised that the plant is only used fresh. The roots can be boiled and drunk as an aphrodisiac. An excessive intake is harmful to the bladder.

- **Arabic name**: Ksoob Al-Sa'a, Qurssa'ani
- **Scientific name**: *Eryngium creticum* Lam.
- **Common name**: Eryngo, Field Eryngo, Button Snake Root
- **Family name**: Umbelliferae / Apiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Flowering plant; the fresh and dried leaves and roots are collected and used from autumn to the spring.
- **Chemical constituents**: Aromatic oil, deltion, marmesin, quercitol, 3-(b-D-glucopyranosyloxymethyl)-2, 4, 4-trimethyl-2, 5-cyclohexadien-1, 1-(b-D-glucopyranosyloxy-3-methoxy-5-hydroxy benzene), b-sitosterol, b-sitosterol-b-D-glucopyranose, mannitol, dulcitol, sesquiterpene, 1, 8-cineole and □-pinene from essential oils, mineral elements (sodium, calcium, potassium), and saponins.
- **Pharmacological action**: It is hypoglycaemic, an appetizer, diuretic, emmenagogue, and nutritive. It is used for liver diseases, anaemia, impotency, kidney stones, gall bladder problems, albuminuria, and jaundice and as an antidote for snake bites, digestive system problems, ulcers and intestinal parasites.
  In folk medicine, a stem decoction is used for coughs, nephritis and diabetes. A root decoction is diuretic and used for kidney stones, uterus ailments, and some skin diseases. Plant juice treats scorpion stings and a plant decoction cures ophthalmia. Fleshy roots are used against snake bites in humans and animals and pounded roots are used as a cataplasm.
- **Other uses**: Fresh young shoots and leaves are edible raw or in salads.
- **Caution**: No reports.

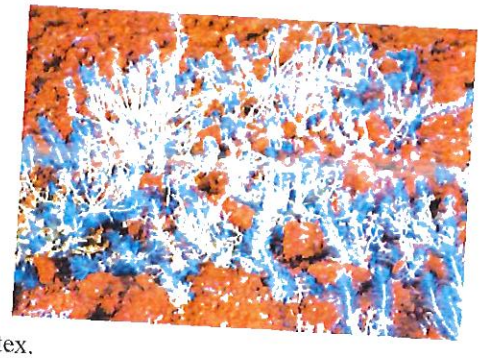
Wadi-Rum

- **Arabic name**: Halabloub
- **Scientific name**: *Euphorbia aleppica* L.
- **Common name**: Aleppo Spurge
- **Family name**: Euphorbiaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Roots, and seeds.
- **Chemical constituents**: Saponin, euphorbin, euphorban, resin, and acids; plant latex consists of phorbol, dytrin and dihydroxy coumarin.
- **Pharmacological action**: The plant is diuretic, purgative and expectorant, and is used for liver inflammations, skin diseases, asthma, respiration problems, chest congestion and warts. It is also used for mucus in the nose and throat, throat spasms, hay fever and tumours. In certain countries the plant is used to treat worms, dysentery, digestive system problems and gonorrhoea.
- **Other uses**: It is a wild flower, and a few drops of latex can coagulate milk to make cheese. It is a common weed.
- **Caution**: Toxicity causes swellings, burns, mouth sores, salivation, diarrhoea, stomach aches, nausea, stupor and death to children. The plant's extract is a skin irritant and a rubefacient. It slows down intestinal motion, and causes intestinal wall constrictions, low blood pressure and influences the heart. It may cause uterus constrictions in pregnant women that result in abortion. It is a genus in which some species may contain co-carcinogenic diterpene-esters (phorbol esters) in the latex, e.g. tigliane, ingenane and daphnane types. Some of these esters are tumour-promoting if they come into contact with the skin, though in some cases there can be latency from months to years. Toxic euphorbiaceae diterpenes are found in at least 14 of the 300 genera in this family. The concentrations of toxic compounds are very low (0.05-0.1%). In the seeds of some species (e.g. *E. lathyris*), the concentration of diterpenes is 0.4%. Despite the low concentration, these diterpenes are thought to be responsible for the irritation and tumour-promoting effect on the skin and the mucosal membranes.

- **Arabic name**: Halabloub
- **Scientific name**: *Euphorbia esula* L.
- **Common name**: Green Spurge, Leafy Spurge
- **Family name**: Euphorbiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Aerial parts, roots, and latex.
- **Chemical constituents**: Euphorbin, caoutchouc resin, latex, n-alkanes, long-chain alcohol, long-chain aldehyde, b-sitosterol, triterpenes, di-terpene long esters, sesquiterpenes, flavonoid glycoside (kaemferol-3-glucuronide), and phorbol esters (ingenol derivatives).
- **Pharmacological action**: The plant is used for chronic rheumatism and paralysis. Latex is placed externally on the skin after being mixed with other materials to dilute its toxic effects. The resin can be mixed with olive oil before being applied on the skin. Latex also may be used internally to repel worms, induce severe diarrhoea, and as a vasodilator or an emetic. The whole plant contains latex that is regarded as carcinogenic, and this is more concentrated in the roots. A strong extract is useful externally to expel warts. High doses of the plant inhibit cardiac functions and cause death.
- **Other uses**: It is a wild flower. Latex is frozen upon exposure to air and transformed into resin, which is marketed as tar. It may serve as a biofuel. It is a honey bee plant.
- **Caution**: The plant is poisonous in all parts to men and animals. However, it is grazed by goats and sheep. The latex is carcinogenic at high doses. It causes inflammation of the skin upon contact and exposure to sunlight.

- **Arabic name**: Halabloub, Hallab
- **Scientific name**: *Euphorbia helioscopia* L.
- **Common name**: Sun Spurge, Madwoman's Milk
- **Family name**: Euphorbiaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant, latex from all parts, leaves, stem, roots, seeds and seed oil.
- **Chemical constituents**: Euphorbin, latex contains glycosides, resin, wax, volatile oils, alkaloids, terpenes, cyanogenic glycosides, glucosinolates, lipids, tannins, jatrophone-type diterpenoids, euphoheliosnoids A–C, fatty acids including □-linolenic, palmitic, linoleic and oleic acids, hydrolysable tannins, saponin, triterpenoid, diterpenes and flavonol glycosides. Seeds contain 28% oil, based on lauric, myristic, palmitic, stearic, oleic, linoleic, and linolenic acids. Lectins from latexes, neutral lipids, quercetin, hyperin, gallic and succinic acids are also present.
- **Pharmacological action**: The plant is anthelmintic, anti-periodic, diuretic, cathartic, anticancer, hypotensive and febrifuge. The root is anthelmintic, purgative, toxic and vesicatory. The plant is useful for hepatitis, arthritis, warts, boils and sunspots on the skin. The latex is used externally for skin ruptures and to burn off warts. Heliocin is anti-tussive and the root extract has an effect on tumours. The leaves are used for fevers, and the seeds are used against cholera and malaria and can be roasted and added to pepper, and are anti-allergy and anti-asthmatic. The root extract has anti-tumour activity. Experiments on the *peplus* species showed its effectiveness on basal cancer cells. Extracts were once given to purge the blood.
- **Other uses**: A wild flower and common weed.
- **Caution**: Latex causes irritation and inflammation to the mucus membrane and is toxic to mammals and fish. It is a skin irritant and contains tumour-promoting diterpene ester toxins of the tigliane and ingenane types. Toxicological and pathophysiological observations have been made on lactating goats and their suckling kids fed on the irritant herbs. The plant is highly toxic, causes irritation to the tongue and mouth, and leads to severe irritation, salivation and blood with deposits. Signs of toxicity in humans include exhaustion, diarrhoea, effects on the heart upon injection, swelling, low blood pressure and heart stress. Large doses weaken the respiratory system and cause gastritis. *Euphorbia helioscopia* is an etiologic model for investigations on the putative risk of cancer from the consumption of food polluted with tumour promoters.

- **Arabic name**: Halabloub, Lubain, Halbion, Halabloob, Luppein
- **Scientific name**: *Euphorbia hierosolymitana* Boiss
- **Common name**: Spurge, Jerusalem Spurge, Luppein
- **Family name**: Euphorbiaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Latex, leaves, and roots.
- **Chemical constituents**: Terpenoids and mainly diterpenes named phorboids that are responsible for its toxicity.
- **Pharmacological action**: The plant's ointment in olive oil or vaseline is used for eczema and haemorrhoids. The plant is purgative and antibacterial, and is used for pimples, exanthema, skin disorders, diarrhoea, dysentery, sexual diseases and intestinal worms. The roots and latex are laxatives. The latex is used externally to stop bleeding. The plant's extract is cytotoxic to liver cancer cells (HepG2 human hepatocellular carcinoma) and colon cancer cells (HCT116 human colon carcinoma). Plant latex is used externally against bleeding. It is used for pimples, psoriasis and warts. It is a laxative and digestive.
- **Other uses**: A wild flower.
- **Caution**: It is a poisonous plant.



- **Arabic name**: Halabloub, Lubain
- **Scientific name**: *Euphorbia macrolada* Boiss
- **Common name**: Spurge
- **Family name**: Euphorbiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Roots and seeds.
- **Chemical constituents**: Saponins, euphorbin, resin, acids, and latex.
- **Pharmacological action**: It is used for warts, eczema, female barrenness, hepatitis, asthma, and colds. The plant is melliferous, expectorant, purgative, antibacterial, anti-scurvy, aphrodisiac, diuretic, rubefacient and stimulant. It cures warts, constipation, arthritis, fungal infections and wounds. The stem extract or latex are locally applied against warts. The plant is used by fishermen as an anaesthetic.
- **Other uses**: A wild flower and common weed.
- **Caution**: Latex causes irritation and inflammation. Toxicity causes swelling, burns, mouth sores, salivation, diarrhoea, stomach aches, nausea, stupor, and the death of children. The plant's extract is a skin irritant and rubefacient, slows down the intestines' motion, and causes low blood pressure and heart stress.

- **Arabic name**: Halabloub
- **Scientific name**: *Euphorbia petiolata* Banks et. Sol.
- **Common name**: Spurge, Woolly Spurge
- **Family name**: Euphorbiaceae
- **Growth habit**: Herb
- **Life cycle**: Annual or Perennial
- **Part/s used**: Roots and seeds.
- **Chemical constituents**: Saponins, euphorbin, resin, acids, and latex.
- **Pharmacological action**: The plant is used for skin diseases, migraines, hepatitis, eczema, asthma, intestinal parasites and warts. It is anti-proliferative, cytotoxic, antimicrobial, antiphlogistic, antipyretic, sedative, diuretic, expectorant, anti-diabetic, anti-carcinogenic and antioxidant. This species is traditionally used to treat arthritis and fungal infections.
- **Other uses**: A wild flower and weed species.
- **Caution**: The latex causes irritation and inflammation. Toxicity causes swelling, burns, mouth sores, salivation, diarrhoea, stomach aches, nausea, unconsciousness and the death of children. The plant's extract is a skin irritant and rubefacient, slows down the intestines' motion, and results in low blood pressure and heart stress.

- **Arabic name**: Halabloub
- **Scientific name**: *Euphorbia prostrata* Ait.
- **Common name**: Prostrate Sandmat, Spurge, Prostrate Spurge, Trailing Red Spurge, Rougette, Rosette, Petit Trèfle, Petite Teigne Noire
- **Family name**: Euphorbiaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used:** Aerial parts, roots, and seeds.
- **Chemical constituents**: Saponins, euphorbin, resin, acids, latex, hydrolyzable ellagitannins including prostratins A, B and C, euphorbins G and H, tellimagradin I and II, and rugosins A, D, E and G. Flavonoids isolated from the aerial parts include: kaempferol, cosmosiin (apigenin-7-glucoside), rhamnetin-3-galactoside, quercetin and quercetin-3-rhamnoside. Other constituents of the aerial parts include the sterols Î²-amyrine acetate, Î²-sitosterol, campesterol, stigmasterol and cholesterol. The aerial parts also contain the terpene alcohol Î²-terpineol, gallic acid, corilagin, 1,2,3-tri-O-galloyl-D-glucose, geraniin, and various amino acids, including n-valeramide and N,N-dimethyl-4-benzoxybutylamine. From the roots a myricylic alcohol and two triterpenes, taraxerol and tirucallol, have been isolated. 6-methoxyquercetin-glycoside and luteolin and its glycosides.
- **Pharmacological action**: The plant is diuretic, purgative, expectorant, antiphlogistic, antibacterial, antipyretic, analgesic, anti-arthritic, anticancer, anticonvulsant, anti-diabetic, anti-eczema, antiphlogistic, antimicrobial, antioxidant, antispasmodic, anti-psychotic, anti-tumour, anti-tussive, anxiolytic, hormonal, hypnotic and myelopoietic. It is used for hepatitis, asthma, chronic stress, and warts.
  All plant parts are used in folk medicine. The plant has different medicinal uses and shows antibacterial activity, inhibits HIV-1 protease and hepatitis C virus protease, and exhibits analgesic activity. The plant's crude extracts treat haemorrhoids, bloody dysentery, asthma, diabetes mellitus and early grades of haemorrhoids. The whole plant is crushed and given with water to buffaloes to cure fever and in butter as a remedy for jaundice. Flavonoids and tannins in the plant have anti-inflammatory, analgesic, haemostatic, anti-thrombic and vasoprotective actions. Flavonoids also have antiviral, anti-allergic, anti-tumour and antioxidant effects. Extracts of the whole plant show antifungal activity and are effective as a type of benzoic

acid. They exhibit antibacterial activity and a leaf extract inhibits HIV-1 protease and is effective against hepatitis C virus protease.

The leaf extract treats inflammations and boiled shoots are eaten with sesame by pregnant women to prevent abortion. Infusion of the leaves or aerial parts is used alone or with other plants to treat diarrhoea, dysentery and stomach aches. A bath of the whole plant facilitates the healing of measles and skin eruptions. The pounded aerial parts with shells are taken to treat irregular menstruation. A plant decoction has astringent, vulnerary and anthelmintic activity. The crushed leaves are eaten to treat amoebic dysentery and their infusion or decoction is taken orally to treat fungal infections. The intake of the crushed plant treats kidney stones and the plant is chewed for gonorrhoea treatment.

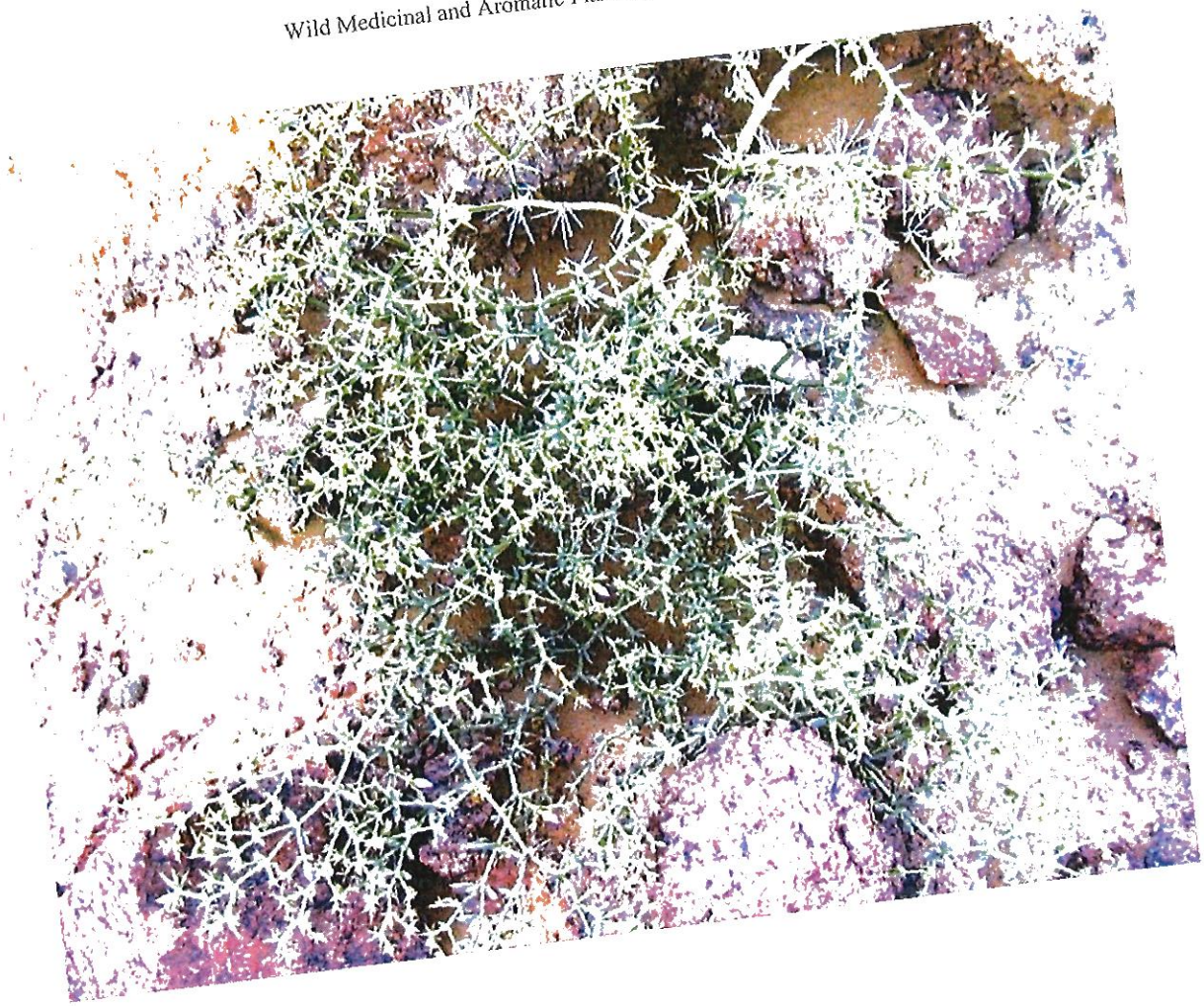
A plant decoction is taken orally to treat painful menstruation. The leaves are rubbed onto wasp stings and scorpion stings. Small balls of pounded plants are inserted into the vagina to treat female sterility and painful menstruation. The crushed plants are used as a poultice for broken arms. Leaf powder mixed with palm oil is rubbed on the head to treat headaches. The whole plant or only the leaves are warmed over a fire, crushed and squeezed on the body to cure insect bites and fungal infections. Crushed fresh leaves in water are used as a mouthwash and gargle to treat oral sores. A bath in the plant infusion is recommended to treat insanity. A vapour bath of the whole plant is taken to treat scabies; the plant is also crushed and applied on the affected spots. Plant juice is taken to induce labour during childbirth. The plant is used in association with other plants to treat deformations of the spinal column.

Euphorbia parts that grow above the ground are used to make medicine. *Euphorbia* is used for breathing disorders including asthma, bronchitis, and chest congestion. It is also used for mucus in the nose and throat, throat spasms, hayfever, and tumours. Some people use the plant to cause vomiting. It is also used for treating worms, severe diarrhoea (dysentery), gonorrhoea, and digestive problems.

- **Other uses**: The plant is known to accumulate heavy metals from the soil. The leaves are also used as fodder. It is a wild flower and common weed.
- **Caution**: Latex causes irritation and inflammation. It is used as an arrow poison. It is an irritant and blistering to the skin and mucus membranes, and is reported to cause blindness. Toxicity is also shown through flatulence, burns, mouth sores, salivation, nausea, stomach ailments, comas, and the death of children. The plant's juice is a skin irritant and rubefacient, and causes low blood pressure, heart debility and affection. When ingested through the mouth, it can cause some side effects such as nausea and vomiting. Pregnant and nursing women should not use the plant. It might cause the uterus to contract, and this could cause a miscarriage. *Euphorbia* can irritate the stomach and intestines and thus should not be used in cases of a stomach or intestinal disorder.

  The genus includes some species that may contain co-carcinogenic diterpene-esters (phorbol esters) in the latex, e.g. tigliane, ingenane and daphnane types. Some of these esters are tumour-promoting. Toxic euphorbiaceae diterpenes are found in at least 14 of the 300 genera in this family. The concentrations of toxic compounds are very low (0.05-0.1%). In the seeds of some species (e.g. *E. lathyris*), the concentration of diterpenes is 0.4%. Despite the low concentration, these diterpenes are thought to be responsible for the irritation and tumour-promoting effect on the skin and the mucosal membranes.

- **Arabic name**: Halabloob, No'maniya
- **Scientific name**: *Euphorbia retusa* (Forssk) Fourr
- **Common name**: Spurge
- **Family name**: Euphorbiaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Latex and aerial parts.
- **Chemical constituents**: Diterpenoids, flavonoids, carotenoids, fatty alcohol chain (1-hexacosanol, triterpenes include 3β-hydroxy-24-methylene-9,19-cyclolanostane; 24-methylenecycloartanol, 3*β*-hydroxy-9,19-cyclolanostane; cyclolaudanol, 3*β*,24*S*-ergost-5-en-ol, and methyllinoleate. Additionally, *n*-dodecane, methyllaurate, 6,10,14-trimethyl-pentadecan-2-one, 6,10-dimethyl-undecan-2-one, 2-methyl-hexadecanal, methylpalmitate, methyl-9,12,15-octadecatrienoate, *n*-heneicosane, and essential fatty acids (linoleic acid, an omega 6 fatty acid) are present.
- **Pharmacological action**: It is used in folk medicine against venomous bites and trichiasis, and is known as a wart remover. Typical pharmaceutical compounds contain a dry extract of the *Euphorbia* species, and a drug or an active agent with excipients is useful for the treatment of anorectal diseases and colon diseases such as haemorrhoids, sores, cracks, fistulas, abscesses, and inflammatory bowel disease. It has antimicrobial activities against *E. coli*, *Bacillus subtilis, Pseudomonas agarici, Micrococcus luteus*, and *Staphylococcus warneri.*
- **Other uses**: A wild flower.
- **Caution**: Latex causes irritation to soft body tissues.



- **Arabic name**: Shukka'a
- **Scientific name**: *Fagonia arabica* Burm. f.
- **Common name**: Arab Fagonia
- **Family name**: Zygophyllaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole plant.
- **Chemical constituents**: Polyphenolics.
- **Pharmacological action**: It is antiphlogistic, mainly against dermatitis, and is analgesic, antioxidant and antierythmic. It is used for abdominal colic, dyspepsia, eye problems, fever, kidney stones, liver pain, malaria, spleen pain and venereal diseases. The plant offers considerable neuroprotection from ischemia and helps maintain the cellular viability and mitochondrial integrity of the cells. *F. arabica* shows a considerable amount of total phenolic content and antioxidant activity. The plant has antioxidant potential and protective efficacy against ischemia/reperfusion-mediated cell death.
- **Other uses**: A forage species.
- **Caution**: No reports.

- **Arabic name**: Shukka'a Hindiya, Itaf, Shukka'a, Aqool
- **Scientific name**: *Fagonia indica* Burm f.
- **Common name**: Fagonia
- **Family name**: Zygophyllaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Stems and roots.
- **Chemical constituents**: Triterpenoids, saponins, alkaloids, coumarins, flavonoids, and tannins.
- **Pharmacological action**: The plant is used for abdominal colic, dyspepsia, venereal disease, fever, high acidity, leucorrhoea, stomach, skin and liver problems, flatulence and kidney stones. It is a tonic, expectorant, and antiphlogistic.
- **Other uses**: A wild flower.
- **Caution**: No reports.

- **Arabic name**: Shukka'a Mollis
- **Scientific name**: *Fagonia mollis* Del.
- **Common name**: Soft Fagonia
- **Family name**: Zygophyllaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole plant, leaves, and aerial parts.
- **Chemical constituents**: Acyclic diterpenoids, erythroxan diterpenoids and triterpenoids.
- **Pharmacological action**: It is an antioxidant. A plant decoction is used to cure bile and for topological applicants. A paste of leaves in boiled water is used for diarrhoea. Other species of *Fagonia* are used for abdominal colic, dyspepsia, eye problems, ear infections, fever, kidney stones, liver pain, malaria, spleen pain and venereal diseases, and it is an anti-cancer species.
- **Other uses**: A forage species.
- **Caution**: No reports.

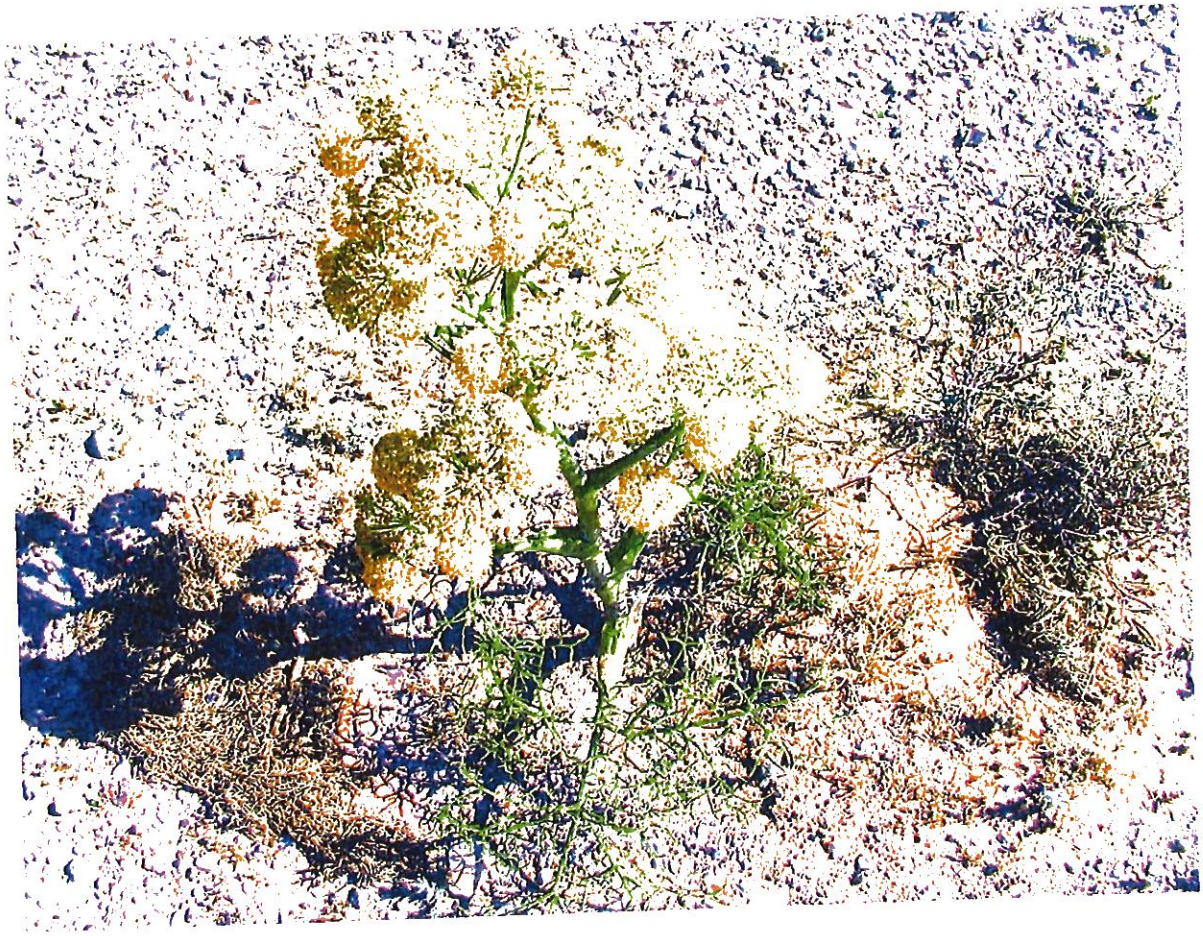
Vegetative growth

- **Arabic name**: Jazzar Al-Ma'a
- **Scientific name**: *Falcaria vulgaris* Bernh.
- **Common name**: Decurrent Water Parsnip, Sickleweed
- **Family name**: Umbelliferae / Apiaceae
- **Growth habit**: Herb, sub-shrub
- **Life cycle**: Biennial or Perennial
- **Part/s used**: Leaves and fruits.
- **Chemical constituents**: Falcarinol, tannin, saponin, flavonoids, terpenoids, volatile oil in all plant parts, essence, vitamin C, phytosterol, protein, and starch.
- **Pharmacological action**: It treats skin sores, stomach disorders, digestion ulcers, liver diseases, kidney and gallstones and is an antioxidant. The extract has protective effects for stomach ulcers in rats and has antifungal properties. In folk medicine, the plant is used for stomach ulcers and wound healing. It has antibacterial activity and is generally antimicrobial. Its extract protects against ethanol, which causes stomach ulcers in rats.
- **Other uses**: It is a wild flower, edible in certain regions and countries, and is used as a vegetable and a spice. It is a honey bee herb.
- **Caution**: No reports.

- **Arabic name**: Haltet, Kalakh, Shwemra
- **Scientific name**: *Ferula communis* L.
- **Common name**: Giant Fennel
- **Family name**: Umbelliferae / Apiaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The spiked dry stalk, leaves, young branches, the resin gum (named fessoukh), unopened inflorescence, and root.
- **Chemical constituents**: Volatile oil, ferulenol, resins (fessoukh), the resinous gum, tannin with ferulic acid, coumarins (umbelliferone), cyanogenic materials (prehydrated coumarin), ferbrinine, ayabin, and daucane sesquiterpenes. The leaf oil's main constituents are myrcene and aristolene; sesquiterpene-umbelliferone ethers, oxygenated sesquiterpenoids, sesquiterpenoid esters are obtained from the fruits; fatty acids are present in seed oil (linoleic acid being the main component); □5 and □5, 22 stigmasterols, the phenylpropanoids helmanticin, latifolone and elemicin, and the coumarins coladonin and coladin are in the roots.
- **Pharmacological action**: The resin gum (fessoukh) is an anti-mycobacterial product collected from the roots and is largely used in traditional medicine. The dried seed stalks are used as tinder. It is carminative, expectorant, laxative, and diuretic. The essential oil causes liver restoration in rats, and is used in cases of urine retention or stool pass failure and against intestinal glut. The gum resin, mixed with olive oil, is used for a variety of skin diseases. It is also used against clothes moths and ringworm, as well as for rheumatism and feet cracks. The gum resin is also added to some depilatory preparations. It is anthelmintic, diuretic, emetic, and analgesic, and is used for joints pains and female barrenness. The roasted flower buds are vermifuge, anti-hysteric, and anti-dysentery and are an aphrodisiac and used for dodderiness. The whole plant is said to possess antispasmodic properties. The roots are also used, especially in a hair care preparation.
  The anti-platelet acetylene is produced from the leaves and falcarindiol interferes with blood platelet aggregation. The plant cures sexual system diseases, and is cleansing and a desiccant. It is effective against dyspepsia, scrofula, wounds, neural cramps and nerve weakness.
  In folk medicine, the oil is used as an appendage to cure blood vessel bleeds below the eye. It is also mixed with iris and henna fat and used as a bandage for sciatica. When cooked with pomegranate bark vinegar and placed in an appendage, it kills piles.

- **Other uses**: The blanched young shoots are considered edible when used in small amounts. The edible portions are the seeds and the thickened bases of leaves and young shoots. The aromatic seeds can be used as a spice and flavouring. Aside from its value as a spice and flavouring plant, it makes a very interesting ornamental. It is used in veterinary medicine. Young flowering buds are also used in small amounts as a soup flavour. The plant is regarded as a wild flower.
- **Caution**: The thickened bases of leaves and young shoots, if eaten in large amounts, can lower the prothrombin level of the blood, the main factor responsible for blood coagulation. This plant should be used in moderation for a short time because it contains potentially toxic principles, especially in the root. The plant is toxic and harmful to the bladder, but only at a certain (relatively short) stage of its growth. The juice of *Ferula* contains a substance that decreases blood prothrombin. It is well known for its anticoagulant activity; it contains a potent anticoagulant and induces severe haemorrhagic diathesis in grazing ewes, and similar changes in utero in lambs. These and other teratogenic changes have been seen in babies from mothers receiving the anticoagulant warfarin during pregnancy. The plant contains cyanogenic materials that cause flatulence. Sheep given powder of *Ferula communis* var. *brevifolia* developed classic clinical signs of intoxication, including anorexia, somnolence, apparent weakness and haemorrhages. A marked reduction of vitamin K-dependent coagulation factors, the increase of prothrombin levels and activated partial thromboplastin time were consistent with the presence of ferulenol, a toxic coumarinic factor in the plant.

A single plant



- **Arabic name**: Kalakh Seina'i
- **Scientific name**: *Ferula sinaica* Boiss.
- **Common name**: Sinai Fennel
- **Family name**: Umbelliferae / Apiaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Root
- **Chemical constituents**: Sesquiterpenes, sesquiterpene coumarins, resins, ferulsinaic acid, 4-hydroxyvaginatin, 4 beta, 8 beta, 9 alpha-trihydroxy-6 alpha-p-hydroxy-benzoyloxydaucane, isolancerotriol, glucose, 2-C methyl-D-erythritol eudesmanolide and carotene.
- **Pharmacological action**: It has antibacterial activity, and its root extract inhibited the contractions of rabbits' tracheals and contractions of the smooth muscles of guinea pigs' tracheals induced by acetylcholine and histamine stimulation, respectively. The root extract also inhibited the contractions of rabbits' aortas, induced by norepinephrine stimulation. The resins are reported as a carminative agent, and used for stomach disorders like a febrifuge, as well as in the treatment of skin infections and hysteria.
- **Other uses**: It is a wild flower and sand soil binder. It is used as a spice and in the preparation of local drugs.
- **Caution**: No reports.

Plant population

- **Arabic name**: Qurbut
- **Scientific name**: *Filago desertorum* Pomel
- **Common name**: Desert Cutweed
- **Family name**: *Compositae / Asteraceae*
- **Growth habit**: Herb
- **Life cycle**: *Annual*
- **Part/s used**: The whole plant.
- **Chemical constituents**: Alkaloids and tannins.
- **Pharmacological action**: It is an anti-carcinogen.
- **Other uses**: A wild flower and forage plant.
- **Caution**: No reports.

- **Arabic name**: Showmar Ba'ri
- **Scientific name**: *Foeniculum vulgare* Mill
- **Common name**: Wild Fennel, Common Fennel
- **Family name**: Umbelliferae / Apiaceaee
- **Growth habit**: Herb
- **Life cycle**: Biennial or Perennial
- **Part/s used**: Leaves, seeds, fruit, leaf stalk, roots and essential oil.
- **Chemical constituents**: Fennel oil contains almost 60% anethole or its polymers. The main Chemical constituents include the terpenoid anethole and, in the volatile oil, fenchone, pinene and apiin.
- **Pharmacological action**: The plant is analgesic, antiphlogistic, cholagogue, antimicrobial, antipyretic, antispasmodic, hypotensive, aromatic, diuretic, emmenagogue, expectorant, hallucinogenic, laxative, stimulant and stomachic. It is used for catarrhs, asthma, urine system inflammations and nephritis. It has previously been mentioned as a source of aphrodisiac hormones. The plant's infusion is used in the treatment of abdominal distension. It helps in the treatment of kidney stones, cystitis, sore throats, and as an eyewash for sore eyes and conjunctivitis. A seed infusion is a cure for wind in babies and the root's infusion is used for the treatment of urinary disorders. A decoction of the root powder is used as a gargle for stomatitis and a wash for inflamed eyes. The root extract is a tonic, and is used for eye cleaning and blurred vision. Fennel fruits improve the mouth's smell and work well against halitosis.
  Fennel's essential oil is aromatherapeutic; it possesses bactericidal activity, increased physical contractions of muscle cells and an overall relaxant effect. It is carminative and a gastric stimulant. It is also used for flatulence, to strengthen eyesight, in indigestion, to clear the organs of obstructions, particularly in the digestive tract, liver, spleen and kidneys, and against colic and hernias. The plant is an antioxidant, acts as a phytoestrogen, inhibits spasms in smooth muscles, choleretic (increases the production of bile), pain- and fever-reducing, has anti-microbial actions, and stimulates milk flow in nursing women.
  In folk medicine, the plant is used as a bronchodilator, anti-tussive (syrup) and a lactagogue. It is good for dysmenorrhoea, and pains and colds of the stomach and lower abdomen. It is orexigenic. The seeds help to decrease appetite and thus help with weight loss, lower stomach acidity and expel intestinal gas. They cure gastric troubles, gout, are liver cleansing and help with cramps and purgatives to allay their side effects. Fennel water is used to correct the flatulence of infants and colon colic. Fennel seeds or their tea can relax the

intestine and reduce bloating caused by digestive disorders. Root extracts were often used in tonics to clear cloudy eyes. The extracts of seeds have a potential use in the treatment of glaucoma and are a potential drug for the treatment of hypertension. There are historical anecdotes that suggest that fennel is a galactagogue and promotes the growth of breast tissue. The syrup is used for chronic coughs, the infusion for respiratory congestion and the seeds as a breath freshener. Young leaves are used for sexual organs, breast alienations and dermatitis. The plant's decoction is a remedy for anus inflammation.

- **Other uses**: Fresh shoots and leaves are eaten raw and used in seasoning. Leaf stalks and flower heads are cooked or used raw, and the root can also be cooked like a parsnip, while fennel tea is employed as a carminative. Dried fruits are utilized in culinary preparations for flavouring bread, salad dressings, bread, pastries, teas, soaps, creams and perfumes. Leaves are often used as a garnish on raw or cooked dishes and make a very pleasant addition to salads. Fennel leaves help improve digestion and so are particularly useful with oily foods. The aromatic seeds are a flavouring agent in different foodstuffs and sprouted seeds can be added to salads. An essential oil from the fully ripened and dried seed is used as a food flavouring in similar ways to the whole seed. It is used in sweets, aromatic solutions, alcoholic drinks, perfumes and soap. Leaf petals and heads are consumed raw or cooked. The leaves or seeds can be used to make a pleasant-tasting herbal tea. The essential oil is a food flavouring, and is used in toothpaste, soaps, and perfumery and as an air freshener. The dried plant is an insect repellent, powdered leaves are effective for keeping dogs free of fleas, and fennel powder drives away fleas from stables. Extracted plant residues are given as feed to animals such as rabbits.
- **Caution**: Skin contact with the sap or essential oil is said to cause photosensitivity and/or dermatitis in sensitive people. The ingestion of the oil can cause vomiting, seizures and pulmonary oedemas. The essential oil from dried seeds should not be given to pregnant women.
  Fennel must not be used by children under 12 years old, epileptics, during pregnancy or by those with high estrogen levels. Excess use of the oil can over-stimulate the nervous system. There is a single reported case of fennel tea ingested by a breastfeeding mother that resulted in neurotoxicity for the newborn child.

Plant at the vegetative growth stage

- **Arabic name**: Lussaique
- **Scientific name**: *Forsskaolea tenacissima* L.
- **Common name**: Desert Nettle
- **Family name**: Urticaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves and the whole herb.
- **Chemical constituents**: Moisture, ash, protein, fat, and carbohydrates.
- **Pharmacological action**: It is used for ulcers and skin wounds, and possesses spasmogenic, spasmolytic and antihypertensive activity.
- **Other uses**: The plant is used in ethnoveterinary practices and as fodder. The inner bark is used by natives in the Sahara for manufacturing rope.
- **Caution**: No reports.

- **Arabic name**: Humra Wabbariyah
- **Scientific name**: *Frankenia hirsuta* L.
- **Common name**: Sea-Heath
- **Family name**: Frankeniaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Rhizome
- **Chemical constituents**: Crude protein; some species of this genus contain tannins, proanthocyanidins, ellagic acid, flavonoid bisulphates, flavonols, flavonol methyl, and kaempferol 3,7-disodium sulphate.
- **Pharmacological action**: It is an antioxidant and antimicrobial, and, because of the kaempferol, the plant reduces the risk of some disorders' development, such as cancers and cardiovascular diseases. Preliminary studies have shown that kaempferol and its glycosides exhibit a wide range of medical activities such as being antioxidant, antiphlogistic, antimicrobial, anti-cancer, protective against cardiovascular diseases, neuroprotective, antidiabetic, analgesic, anti-allergic and anti-excitants of estrogenic/anti-estrogenic hormones.
- **Other uses**: The rhizome powder is mixed with milk and given to cows to increase milk production. The plant may be used in landscaping; it is also a food source for ruminants.
- **Caution**: No reports.

Frankenia hirsuta

- **Arabic name**: Zenpaq
- **Scientific name**: *Fritillaria libanotica* (Boiss) Baker
- **Common name**: Fritillary, Lebanon Fritillary
- **Family name**: Liliaceae / Alliaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Rhizomes
- **Chemical constituents**: Peiminine alkaloids.
- **Pharmacological action**: *Fritillaria* is hypoglycaemic, affects the lungs, clears heat and moistens dryness. It is used for hot-type bronchitis with dry coughs and to calm heartburn. It treats lumps beneath the skin such as scrofulous swellings and breast lumps. It has been adopted into some Chinese herb formulas for treating cancers.

  In traditional medicine, the plant is a component of a large number of formulas. An ingredient of the anemarrhena and *Fritillaria* pill is used for stopping coughs. Their ingredients include trichosanthes. A herb composition is frequently combined with *Fritillaria* in traditional formulas for lung disorders and the plant is commonly included now as a main ingredient in manufactured cough syrups. A well-known food therapy for coughs is made from a steamed sliced pear, to which *Fritillaria* powder and sugar are added. The pear-*Fritillaria* preparation is then eaten (the juice that is formed during the cooking process is also consumed).
- **Other uses**: It is a safe herb that can be used in food preparations (such as *Fritillaria*-pear) and for which there are no expected adverse reactions. It is a natural nutritive and a cure for coughs.

❖ **Caution**: Rhizomes of *Fritillaria cirrhosa* are said to be poisonous if used without thorough processing. The majority of the species of fritillaries contain toxic alkaloids like imperialin, and some may be deadly if ingested. Isolated *Fritillaria* alkaloids administered in high dosages by intravenous administration produce respiratory inhibition, pupil dilation, tremors, and a decrease in blood pressure and heart rate. The acute toxicity of the isolated alkaloids in experimented animals is about 10 mg/kg for peimine, while the related alkaloid peiminine was 20-30 times less potent than atropine in causing the inhibition of mucosal and salivary secretions. *F. imperialis* contains the isosteroidal alkaloids peimisine and imperialin in its bulbs (0.1-0.4% of dry weight).

Plant spread

- **Arabic name**: Ward Al-Shams
- **Scientific name**: *Fumana arabica* (L.) Spach
- **Common name**: Arabian Cistus, Mediterranean Sun-Rose, Mediterranean Rockrose
- **Family name**: Cistaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Leaves
- **Chemical constituents**: Resin.
- **Pharmacological action**: The leaves of some species of rockroses, including the hoary rockrose, produce an aromatic substance which was used in medicine and is still used in the production of perfumes. *Cistus* plants produce a resin that is collected from the beards and thighs of goats and sheep that had been grazing among the *Cistus* plants.
- **Other uses**: A wild flower.
- **Caution**: No reports.

- **Arabic name**: Dukhainah, Shahtrij, Zeita, Baqlat Al-Mulook
- **Scientific name**: *Fumaria densiflora* DC.
- **Common name**: Denseflower Fumitory, Fumitory
- **Family name**: Fumariaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The flowering herb or the whole plant (except the root) at flowering stage.
- **Chemical constituents**: Fumaric acid and its isomerism, maleic acid, alkaloids including fumarine which is identical with corydaline, aurotenisine, protopein, cryptopine, sinactine, stylopine, bicuculline, adlumine, parfumine, fumariline, fumarophycine, fumaritine, dihydrofumariline, parfumidine and dihydrosanguinarine. In *F. densiflora,* protopine and *O*-methylfumarophycine represent 55% of the total alkaloids; caffeic, coumaric, fumaric, protocatechuic, and malic acids are also present. In addition, vitamin C (up to 370 mg%), mucilage, amino acids, resins and bitter materials are present.
- **Pharmacological action**: The extracts of the aerial parts of *F. densiflora* have traditionally been used for the treatment of some skin diseases (rashes or conjunctivitis), rheumatism, stomach ache, abdominal cramps, fever, diarrhoea, syphilis and leprosy. The extracts also possess strong antihypertensive, diuretic, hepatoprotective and laxative effects, mainly because of the presence of isoquinoline alkaloids. In addition, *F. parviflora* has been reported to possess significant antioxidant activities due to its high phenolic content, and the *densiflora* species was reported to have strong acetylcholinesterase activity through its extract. It possesses antiviral, antimicrobial and cytotoxic activity against brine shrimp. Externally, the plant is used for inflammation, haemorrhoids, acne and as a wash to prevent alopecia.
- **Other uses**: Fumitory is readily eaten by cattle and sheep, but horses eschew it and goats dislike it when it is fully grown. The plant is mentioned as a food in certain parts of the world. The flowers are used to make a yellow dye for wool.
- **Caution**: The plant is toxic; its doses should not be increased. In cases of prolonged treatment, a week's time interval should be left before its reuse. Dogs injected with the plant's extract exhibited low blood pressure. The plant is common in fields and orchards. It is also spread on waste places and roadsides in villages and on old walls and mountains at 1700m above sea level. Patients suffering from fits and epilepsy should avoid using this plant. It is also contraindicated for glaucoma patients. The plant must be avoided during pregnancy and by women breast-feeding.

- **Arabic name**: Dukhainah, Shahtrij, Baqlat Al-Mulook
- **Scientific name**: *Fumaria parviflora* Lam.
- **Common name**: Fumitory, Fineleaf Fumitory
- **Family name**: Fumariaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Flowering herb, and the whole plant without roots.
- **Chemical constituents**: Alkaloids including sinactine, stylopine, bicuculline, adlumine, parfumine, fumariline, fumarophycine, fumaritine, dihydrofumariline, protopine, cryptopine, parfumidine, dihydrosanguinarine, adlumidiceine, and coptisine. Hemi-alkaloids, vitamin C, bitter materials, mucilage, amino acids, resin, tannin, sugar, potassium and other minerals. The leaves and stems contain pentatriacontane, glucose, tannin, fumaric acid, and considerable amounts of KNO_3 and KCl. Izmirine (a new protopine alkaloid), alkaloid, sanguinarine, kaempferol, quercetin glycosides, rhoeagenine are obtained from the leaves and twigs as well as a rhoeadine-type alkaloid. Protein is present in leaves, vitamin B in the flowers and vitamin A in the flowers and leaves. Oxysanguinarine and 8-oxocoptisine, isoquinoline alkaloids including the indenobenzazepines, parviflorine and a glycosidic spirobenzylisoquinoline alkaloid are also present. Total sugar is greatest in leaves; in addition, protein and amino acids are also present.
- **Pharmacological action**: It is diuretic, diaphoretic, digestive, stimulant, laxative, anthelmintic, aperients, alterative, tonic, stomachic, sedative, blood cleansing and antibiotic. The plant is used for gastritis, cholecystitis, scurvy, constipation, fever, tuberculosis, arteriosclerosis, migraines, digestive glands and skin and kidney secretions.

  The plant and protopine cause a significant decrease in intestinal muscle contractions, and they are cardioinhibitory, anti-arrhythmic, hypotensive, and antipyretic. Both have intestinal antispasmodic, antihypertensive and anti-rheumatic activity. They cure skin diseases such as eczema and scabies. The plant's infusion is used for liver diseases, gallstone, cholecystitis and haemorrhoids. The plant's decoction and infusion are used for leprosy, constipation, jaundice, chronic fevers, dyspepsia and skin disorders. It is a cure

for syphilis and scrofula. It is a detoxifier, and the extract had an effective role in lowering the levels of glucose and cholesterol, and is also anti-diabetic.

The extract is hypoglycaemic, reduces the cholesterol level in the blood, anti-diabetic, shows estrogen-like effects, is antioxidant and possesses anti-lipoperoxidant activities. The extract also exhibits a selective protective effect against paracetamol-induced hepatotoxicity.

The ethanol extract could be a promising alternative source for the treatment of gastrointestinal trichostrongylids in small ruminants.

In folk medicine, the aerial parts of the plant have been considered as diuretic, hepatoprotective, laxative, and blood purifiers, and have been externally used in a liquid form for the treatment of scabies, eczema, acne and other skin disorders.

- **Other uses**: A wild flower.
- **Caution**: Overdosing on the plant is dangerous; it may be toxic, and results in severe diarrhoea and the failure of the respiratory system. Toxicity can be avoided by leaving eight-day treatment intervals if the use of medication is extended for more than a week.

- **Arabic name**: Zaetman
- **Scientific name**: *Gagea chlorantha* (Bieb.) Schult. fil.
- **Common name**: Damascus Gold-Crocus, Gagea
- **Family name**: Liliaceae / Alliaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The whole plant.
- **Chemical constituents**: Alkaloides.
- **Pharmacological action**: It is anti-carcinogenic, and some species of the genus are diuretic.
- **Other uses**: A wild flower.
- **Caution**: No reports.

- **Arabic name**: Losaiq, Dhairji, Dubaiq, Hashishat Al-Afa'a
- **Scientific name**: *Galium aparine* L.
- **Common name**: Goosegrass, Cleavers
- **Family name**: Rubiaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: The whole plant except the root. Aerial parts and fresh juice when it has just started flowering, flowers, fruits, flowering stems, and leaves.
- **Chemical constituents**: Chlorophyll, starch, tannic acid, tannins, and galitannic, citric, salisilic and rubichloric acids. Iridoid glycosides (monotropein, asperuloside, aucubin), phenolic acids (caffeic, gallic), anthraquinone derivatives, glycosides, glycoside anthraquinone, flavonoids, coumarins, tannins, red dye (including galiosin), chlorophyll, starch and caffeine are also present.
- **Pharmacological action**: A plant tincture is used for stomach ailments, children's diarrhoea and bronchitis. It is a sedative and an antispasmodic. A fresh plant extract is used for heart debility, and a plant decoction is used for diabetes, sclerotics, nose bleeding, wounds and ulcer cleansing. It was used to reduce swelling to the legs and feet in those suffering from urinary system diseases. It helps with urine deposits in cases of cystitis and can also be used by patients of tumerous lymphatic glands, jaundice and different wounds. The plant may have an anti-contraction effect on the intestine; it is also used for dropsy and water retention in the abdominal bowel, for infections of the urinary tract, the inflammation of fatty skin, for eczema, psoriasis, and kidney stones, and is hypotensive, anthelmintic, and effective for vaginal gonorrhoea. It is also diuretic, astringent, and depurative, helps eliminate toxins, and has been indicated to help with joint pain, skin diseases such as acne and eczema and respiratory diseases such as chronic sinusitis. It is a lymphatic alterative, antiphlogistic, aperients, tonic, anti-neoplastic, anti-cancer, and used for scurvy, scrofula and psoriasis. It is antiseptic and antispasmodic, and a cure for kidney and urinary disorders, wounds and ulcerous conditions. It is known as a blood purifier, effective in enlarged lymph gland conditions, and stimulates the immune system. A fresh leaves paste is applied topically for healing wounds.

  The plant is used for scalds, colds, swellings, for some bleeding and diarrhoea. Its tea is a remedy for head colds and a detoxifier, and the plant is used as a poultice to cure sores, blisters, and bites of snakes, spiders

and all venomous creatures. It is good for causing lankness and prevents fatness and earache. The plant is a mild sedative, and is reported to lower blood pressure in dogs.

- **Other uses**: The dried plant is often infused in hot water and drunk as a tea; dried roasted fruits are used as a coffee substitute and can also be prepared as a tea from a green or dry plant. The plant is consumable and used in food but, because of the unpleasant hairs on the plant, it is advised to be utilized after being boiled separately or with other plants. Herbalists recommend the use of the herb's tincture and tea. It was used by shepherds to make sieves for milk filtration.
- **Caution**: No contraindications are known. Diabetics should consume fresh juice with caution, and it is better not given where a tendency to diabetes is manifested. Its use in treatments for conditions such as chronic sinusitis should be under medical supervision.

A thick population of *Galium* sp.

Galium sp.

Different *Galium* spp.

- **Arabic name**: Ettrah, Etter, Qarn Al-Ghazal
- **Scientific name**: *Geranium tuberosum* L.
- **Common name**: Crane's Bill, Tuberous Crane's Bill
- **Family name**: Geraniaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Tubers and root.
- **Chemical constituents**: Gallic acids, tannin, starch, sugar, gum, pectin, and colouring materials.
- **Pharmacological action**: Tubers, either raw or roasted, are a powerful astringent; they are used for haemorrhages, indolent ulcers, aphthous ulcers, sore mouth, ophthalmia, leucorrhoea, gleet, haematuria, menorrhagia, diabetes, and all excessive chronic mucous discharges. It is also used to cure mercurial salivation. The relaxation of the uvula, as well as aphthous ulcerations of the mouth and throat, may be benefited by gargling a decoction of the root. A root decoction is also effective against dysentery, diarrhoea, and cholera infantum. It is restorative, styptic, astringent and tonic, and is effective against piles and internal bleeding and excellent for flooding and leucorrhoea.
  A drug from the plant has diuretic and astringent properties for the skin, eye care, and mouth inflammations.
- **Other uses**: A wild flower.
- **Caution**: Exposure to juice or sap from the plant or a puncture wound from the thorns may produce a skin rash or irritation. Skin wounds from some of these plants can be extremely painful, causing large blisters and skin burns.

Geranium sp.

Corms

- **Arabic name**: Sayfiya, Dalpoth, Gladiola Bariyah
- **Scientific name**: *Gladiolus segetum* Ker-Gawl
- **Common name**: Corn Flag, Sword Lily, Common Gladiolus
- **Family name**: Iridaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Leaves, corms, and plant extract
- **Chemical constituents**: Anthraquinones, anthraquinone glycosides, saponins, deoxyerythrolaccin lignans (+)-demethoxypinoresinol, (+)-pinoresinol, (+)-pinoresinol monomethyl ether, neolignan (–)-dehydrodiconiferyl alcohol, anthraquinones deoxy-erythrolaccin, physcion, laccaic acid D-methyl ester, glucoside 6′-O-palmitoyl-3-O-sitosterol, b-sitosterol-3-O-glucoside, flavonols, anthocyanidins, ascorbic acid, and mucilage.
- **Pharmacological action**: The organic solvents' extract killed MRC-5 (human pulmonary embryonic fibroblasts). The plant is used in treatments of ulcers, dysentery, impotency and rheumatic pains. In folk medicine, corms smoke is sometimes used for colds. Corms are dissolved in commandaria and used for male and female sterility, and are given to animals to ensure conception.
- **Other uses**: A wild flower.
- **Caution**: It is a poisonous plant for men and animals; animals suffer death within 72 hours of its digestion.

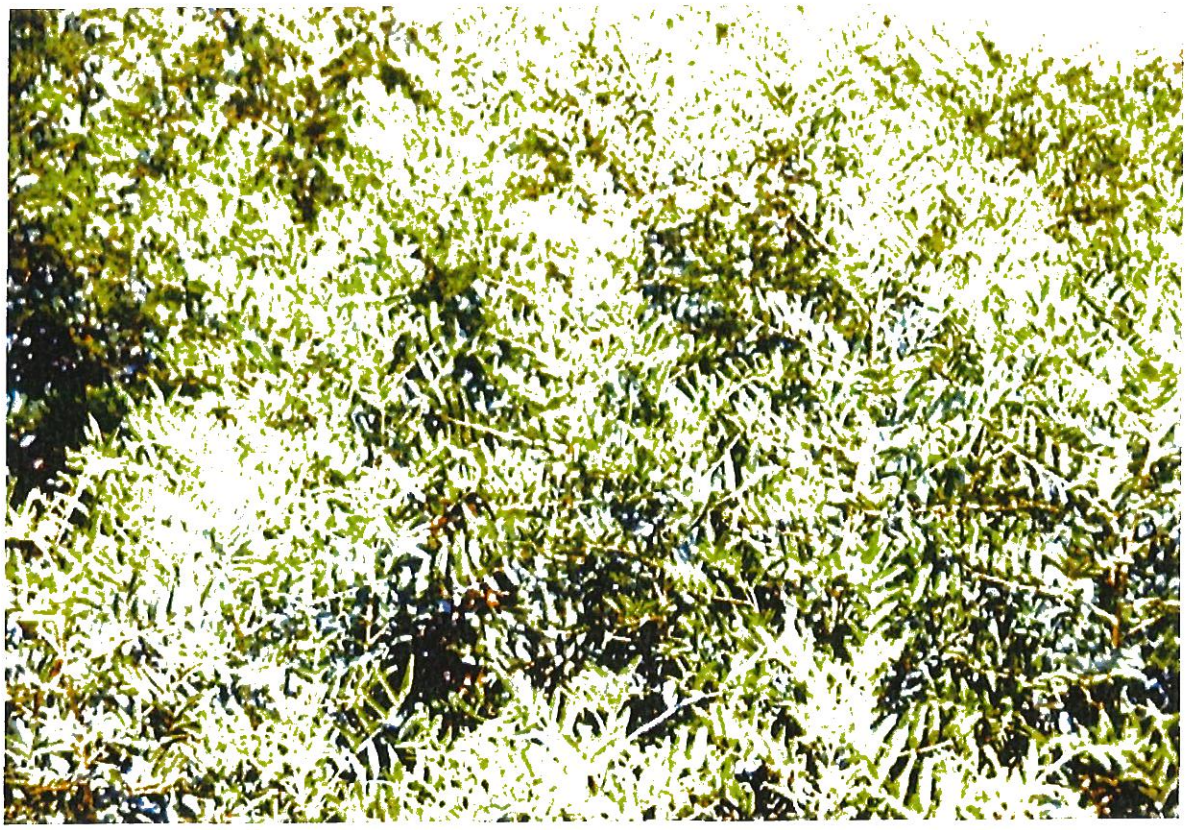
- **Arabic name**: Khushkhash Abu-Qroon, Khushkhash Asfar, Mezraq Qarni
- **Scientific name**: *Glaucium corniculatum* (L.) Rudolph
- **Common name**: Red Horned Poppy, Scarlet Horned-Poppy, Blackspot Hornpoppy
- **Family name**: Papaveraceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Roots, flowering heads, leaves, flower petals, and the whole plant.
- **Chemical constituents**: The herb's aerial parts contain toxic aporphine alkaloids: predicentrine, glaufidine, dehydrocorydine; noraporphines: (+)-norbracteoline, corydine, isocorydine, protopine, α-allocryptopine, thalicmidine, bulbocapnine (1.2%), dicentrine (0.7%), protopine (0.42%), corydine (<0.1%), glaucine (<0.1%), α-allocryptopine (<0.1%), o-methylflavinantine, glaucoperisin, resin, aurotanzin, isocoridin, saponins, Ɣ-celandine, papaverine, codeine and anthocyanin pigments. Some species contain pynirin and alcoholic ketone including pertheroline, sezolone, glausin, phytochemicals, asperulin, colouring material and asperulisin.
- **Pharmacological action**: The plant is a stimulant, acrid, alterative, diuretic, diaphoretic, hypertensive, hydragogue, purgative and vulnerary. It is used against warts, indolent ulcers, fungus growths, and removing specks and opacities of the cornea. It also cures ringworms, prevents traumatic inflammations and, as a poultice or ointment, is used for scrofula, cutaneous diseases and piles. The plant is useful in hepatic affections, and is supposed to exert a special influence on the spleen. It is also used for hepatitis, migraines, gout, ophthalmia, bilious headaches, supraorbital neuralgia, bilious dyspepsia, headaches, and other gastric and intestinal disturbances. It is a remedy for liver coughs, haemorrhoids, hepatic and spleen congestion, and gastrointestinal and bile disorders. It is the best remedy for biliary, catarrh, and jaundice. It is used for tensive or throbbing pain in the right hypochondrium. Small doses are used for somewhat pallid and enlarged tongues, biliary calculi and hydrocele.
- **Other uses**: A wild flower.
- **Caution**: Poisoned animals and feed containing horned poppy plants revealed the presence of protopine. The juice, when applied to the skin, produces inflammation and even vesication. Medical advice is necessary as it

causes vomiting and headaches. It is not allowed for patients of hypotension since it is an anti-adrenalin. Protopine is an animal poison and the plant's juice causes inflammation and skin exanthema.

Different species of *Glaucium*

- **Arabic name**: Glinose, Khubaiz, Ghobbeira, Mogheira
- **Scientific name**: *Glinus lotoides* L.
- **Common name**: Damascisa, Lotus Sweetjuice
- **Family name**: Aizoaceae / Molluginaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Whole plant, and roots.
- **Chemical constituents**: Glinusides F, G, H, and I, succulentoside B, vicenin-2, and vitexin-2″-O-glucoside in seeds. mollugogenols A, B, C, D, and E, β-and γ-sitosterol glucosides, oleanolic acid, mollugogenol a-3, mollugogenol-7, stidmollugogenol-F, and 3β,16β,22-trihydroxyisohopane were isolated from different parts of the plant. The amount of protein, carbohydrate, fat, ash, moisture, sugar profile and fatty acids further support the nutritional value of the seeds, which also contain vitamin E, selenium, and calcium. It is also reported to contain hopane type saponins, tri-terpenoid saponins, sapogenins like mollugogenins, flavonoids vicenin 1 and 2, and it also has nutritional value.
- **Pharmacological action**: It is purgative, and is used for abdominal diseases and boils. The dried plant is employed for diarrhoea. It is also applied locally on skin ailments and pruritus. The seeds are used in the treatment of tapeworm infestations. The plant has anti-spasmodic, anti-ulcerogenic, anthelmintic, anti-tumour, molluscicidal, genotoxic, bio-pesticidal, wound healing, and antioxidant activities. The seeds are chemopreventative due to the presence of nutritional compounds such as vitamin E, folic acid, selenium, and calcium. Methanol and n-hexane extracts induced significant apoptosis in cancer cells. This plant is found in seasonally inundated land and has many traditional uses in cultures across its large native range, including as a medicine and as food. The plant is considered to be useful for abdominal disorders.
  It is used as an antiseptic, anthelmintic, as a treatment for diarrhoea and bilious attacks, and as a purgative for curing boils, wounds and pain in general. The juice of the plant is also sometimes given to weak children for strength. It is used in Africa for the treatment of diabetes and skin ailments.
  In folk medicine, the plant is used for skin diseases. The roots' paste is applied topically for the treatment of pyoderma. The dried plant is prescribed for diarrhoea and applied to skin ailments and pruritus. The seeds are used in the treatment of tapeworm infestation.

- **Other uses**: The plant is used as a dietary vegetable. Young leaves and stems are used as a vegetable in some tropical countries. The tender young leaves are edible and are also used as fodder for goats.
- **Caution**: No reports.



- **Arabic name**: Soos, Irk Al-Soos, Iriksoos, Asl Al-Soos
- **Scientific name**: *Glycyrrhiza glabra* L.
- **Common name**: Liquorice, Licorice
- **Family name**: Leguminosae / Fabaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Roots and rhizomes.
- **Chemical constituents**: Flavonoids, phenolic compounds and carbenoxolone. Roots contain triterpene saponins, glycerin (2%), asparagine (2%), volatile oil (3%), glycyrrhizin glycoside, glucose, sucrose, glycyrrhizic acid, mineral elements (potassium, calcium, magnesium, and phosphate), starch, polysaccharides, sterols, coumarins, heliocin, gum, protein, mannitol, esterogenic materials, choline, and aromatic oil. The plant is known to contain estragole. The roots contain triterpene saponins: 2-15% with glycyrrhizin (potassium and calcium salts of glycyrrhizic acids) and 2-9% as major components.
- **Pharmacological action**: It is carminative, antispasmodic, expectorant, demulcent, spasmolytic, antiphlogistic, an adrenal agent, a mild laxative, anti-tussive and hypertensive. The plant is used for constipation, coughs, gastrointestinal ailments, hoarseness and mouth care. It is also included in a mixture with other plants for the treatment of gastric ulcers. Glycyrrhizin is used for the treatment of malaria. An antioxidant, it is used in cosmetic preparations with antibacterial properties containing glycyrrhetinic acid or its derivatives. Flavonoids have abdominal fat-lowering and hypoglycaemic effects. It is included in a drug of mixed herbs that prevents the bad effects caused by the smoke of tobacco, and removes toxic ingredients from the human body. It is also used for rheumatoid arthritis, soothing the throat, and as a syrup for preventing hoarseness, dryness of the mouth and toning of the voice. It is soothing and emollient, and is useful in stream facials as it helps open the pores. The plant is of value for bronchitis, and peptic and duodenal ulcers. It is a sweetener and flavouring in pharmaceutical preparations and a binding agent in pills. It may be useful for mouth ulcers and as a topical antiviral agent for shingles, ophthalmic, oral or genital herpes. It is a tonic and diuretic, and is used for allaying catarrhal infections, irritable conditions of the mucous membrane of urinary organs, sore throats, anorexia and persistent low fever. It is analgesic, digestive, and purgative and treats myalgia. The roots act as a soothing remedy for aggravation in the upper respiratory tract, heal ulcers, and inhibit the growth of harmful viruses, and glycyrrhizic acid is used for chronic viral hepatitis.

  It was possible, using glycerine, to produce similar material to cortisone that showed high activity in curing rheumatism diseases. The plant is a cure for anaemia.

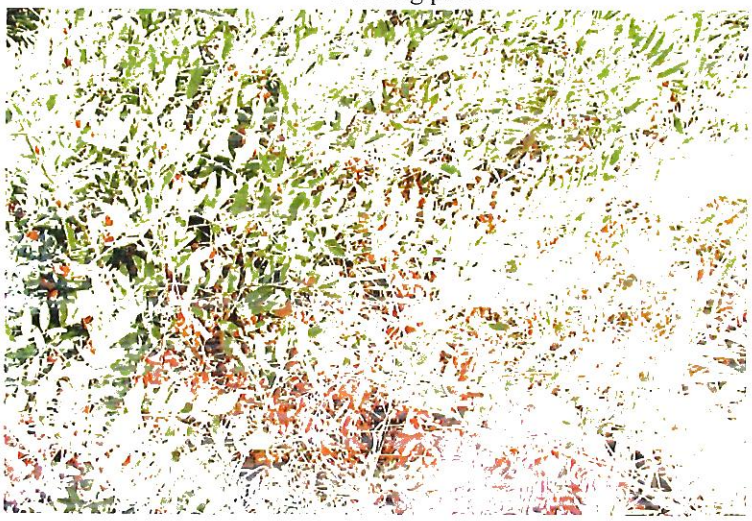
Liquorice consumption may prevent the development of hyperkalemia in persons on haemodialysis. It is used to treat ileitis, leaky gut syndrome, irritable bowel syndrome and Crohn's disease. Carbenoxolone may inhibit 11β-Hydroxysteroid dehydrogenase type 1, an enzyme in the brain that is involved in making stress-related hormones, which has been associated with age-related mental decline.

In traditional medicine, liquorice is used to harmonize other ingredients, as an anti-cancer formula, and for auto-immune conditions including lupus, scleroderma, and animal dander allergies. The root has been shown to modulate airway constriction, lung inflammation and the infiltration of eosinophils in bronchial areas.

Liquorice's drink is used for gastritis, constipation, as a galactagogue, for urine and sexual tracts' inflammation and headaches. It is a laxative drug for children and pregnant women. It is an emollient and a mucus membrane protectant. It is included in compositions of anti-tussive drugs and its maceration is an alleviator and laxative for chest diseases. The drink prepared from its roots is a laxative and diuretic, and it is also useful for kidney diseases, colds and throat inflammation. The roots' powder is used for stomach ulcers, chronic constipation, dyspepsia, heart attacks, blood cleansing and arthritis. It is an expectorant and tonic.

- **Other uses**: The plant is regarded as a beverage and industrial species. It is used to help beer foam and as a foaming agent in fire extinguishers, fertilizers, insecticides, and insulation. It is extensively used in flavouring tobacco. The water extract of dried roots is used as a cold beverage. It is also useful as a hair shampoo. Liquorice is a flavouring for many products, including candy and liqueurs. Commercially it is used in pastries, ice cream, soy sauce and soya meat substitutes. It is a coffee substitute and spice. The plant is consumed fresh and its aerial parts may be used as an insect repellent.
- **Caution**: Large doses cause side effects such as headaches, high blood pressure and water retention. Large doses of glycyrrhizin acid and glycyrrhetinic acid in liquorice extract can lead to hypokalemia and serious increases in blood pressure, a syndrome known as apparent mineral corticoid excess. It should be prescribed in a neutral or alkaline solution. Glycyrrhizin acid in the roots is known to induce mineral corticoid effects (and hypertension as a consequence). It should not be used by persons with a rapid cardiac pulse and those who use digoxin drugs.

Flowering plants

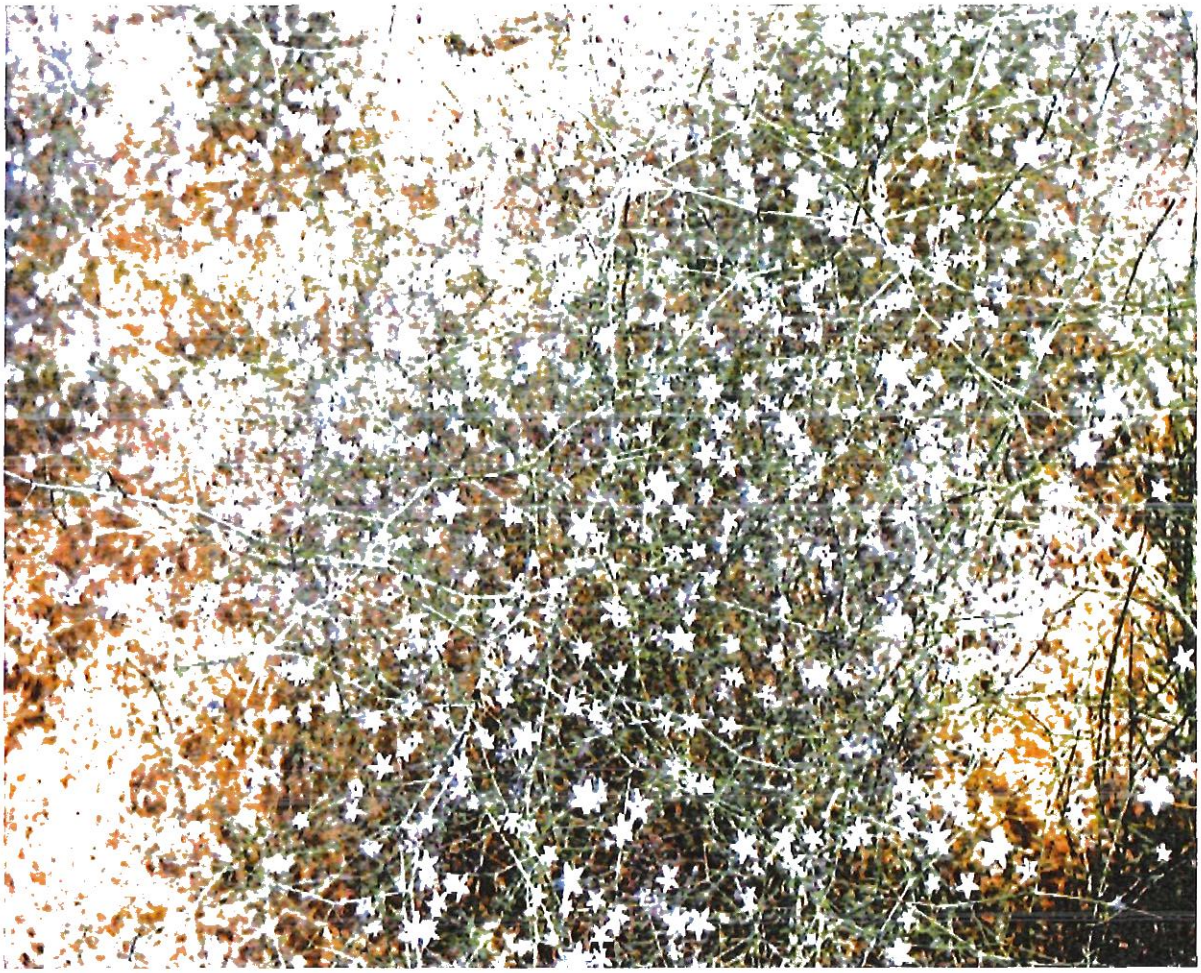


Fruiting plants

- **Arabic name**: Akkoub, Kaoub
- **Scientific name**: *Gundelia tournefortii* L.
- **Common name**: Thorn Galgal, Tumbleweed, Tumble Thistle, Gundelia
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Biennial or Perennial
- **Part/s used**: Dry seeds, heads before flowering, stem, young leaf rib, and inflorescence.
- **Chemical constituents**: Scopoletin (the major coumarin), molluscicidal saponins, phenols, protein, fats, fibres, ash, soluble carbohydrates, vitamins A and C, and mineral elements including calcium, phosphorus, iron, sodium, potassium, manganese, zinc and copper. Seeds contain proteins similar to wheat and soya bean proteins. The oil is rich in useful fatty acids, especially linolenic acid.
- **Pharmacological action**: The plant is used for diarrhoea and numbness. Dry seeds are effective for the treatment of vitiligo disease, and are diuretics and antioxidants. The plant plays an important role in protecting against cardiovascular diseases, reduces harmful lipid (LDL) levels in the blood, is an anticoagulant, and restricts inflammations. It helps the growth of memorial cells. A drink prepared from boiled seeds is useful as a hypotensive, styptic, and for curing piles. A plant infusion is useful for curing liver diseases, regenerating the liver cells and stimulating their excretions. A plant decoction is useful for improving insulin sensitivity. The cellumarin compound protects the liver from toxins; the plant is digestive and useful for chronic constipation. It is recommended for weight loss since it is free from fats. The root decoction is a laxative, emollient and anti-diabetic. It is used for liver and gallbladder diseases and cures diarrhoea.
  In folk medicine, a seed, stem and root decoction is laxative, emollient and anti-diabetic. It is used for bile, colds, catarrhs, liver diseases and diarrhoea. Latex is externally applied in the treatment of skin diseases, edema and toothache.
- **Other uses**: The seeds are used in pickles, young stems and heads are cooked as a stew or egg-vegetable dish, floral buds are cooked as a vegetable and the young inflorescence of the plant is also edible as a vegetable. Heads are also cleaned from spines, fried in olive oil or stewed with meat and are delicious.
- **Caution**: No reports.

- **Arabic name**: Sawsan Addy
- **Scientific name**: *Gynandriris sisyrinchium* Parl. (Syn. *Iris sisyrinchium* L.)
- **Common name**: Barbary Nut, Spanish Nut
- **Family name**: Iridaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Tubers, roots, and the whole plant.
- **Chemical constituents**: Isoflavones; 3'-methyl tenuifone, gynandrinone, β-sitosterol, 7,3'-dimethoxy-5,6,4'-trihydroxyisoflavone, iristectorigenin, hispidulin, galangustin, 6-hydroxybiochanin A, ursolic acid, ladanetin, 4'-O-methylgenistein and β-sitosterol glucoside. Apigenin, benzoic acid, p-coumaric acid and quercetin.
- **Pharmacological action**: Isoflavones have antioxidant and cytotoxic activities against the human promyelocytic leukaemia HL-60 cells; it was revealed that the 3'-methyl tenuifone compound is the most active (40μM) and is mediated by apoptosis.
  In folk medicine, the plant's methanol extract exerted better scavenging, reducing, tyrosinase, and α-glucosidase inhibitory activities, while the less polar ethyl acetate extract showed better phosphomolybdenum and metal chelating activity and α-amylase inhibition. The plant can be considered as a potential source of bioactive compounds for novel phytopharmaceutical development in the treatment and/or management of non-communicable diseases.
- **Other uses**: The root is edible raw or cooked and as a spice.
- **Caution**: Some caution is advised as it has some toxicity.

- **Arabic name**: Abu-Qarn
- **Scientific name**: *Gynandropsis gynandra* (L.) Briq.
- **Common name**: Shona Cabbage, African Cabbage, Spiderwisp, Cat's Whiskers
- **Family name**: Capparidaceae or Capparaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Leaves, roots, and seeds.
- **Chemical constituents**: Mineral elements, beta-carotine, 7-phenoxycoumarin, apegenin, B-setosterol, cleogynol, cleomin, glucocapparin, hexcosanol, kaempferol, lactone-cleome-olide, ascorbic, folic, linoleic, myristic, oleic, oxalic, palmitic, stearic and viscosic acids, peduletin, viscosin, calcium, vitamin E, iron, and protein in leaves.
- **Pharmacological action**: The plant is an antioxidant and anti-inflammatory. A leaves and roots decoction is used for stomach aches, chest aches and constipation. The leaves are anthelmintic, and their decoctions are repellents of filament worms in children. A seed infusion is good for coughs. The whole plant is used for asthma, coughs, fever, haemoptysis and pneumonia.
- **Other uses**: The leaves and flowers are edible; the leaves have an acrid taste and are sometimes peppery like mustard.
- **Caution**: No reports.



- **Arabic name**: Gypsophylla
- **Scientific name**: *Gypsophylla arabica* Barkoudak
- **Common name**: Snow Flake, Baby's Breath
- **Family name**: Caryophyllaceae
- **Growth habit**: Herb
- **Life cycle**: Annual or Perennial
- **Part/s used**: Roots and bark.
- **Chemical constituents**: Pentacosanoic acid, lacceroic acid, beta-sitosterol, alpha-spinasterol, daucosterol, sucrose, saponosides, and saponin.
- **Pharmacological action**: The plant is a tonic, diaphoretic alternative and useful for skin diseases.
  The root is used in the treatment of jaundice, pulmonary diseases, rheumatism and typhoid fever. It is alterative, diaphoretic, purgative and tonic. A valuable remedy, it is used as an external wash for the treatment of many skin diseases.
  Some members of the *Gypsophila* species are used as a drug in response to certain diseases as an expectorant and diuretic in the treatment of hepatitis, gastritis and bronchitis. Roots and barks of some saponin-bearing plants are used for dysentery, diarrhoea and stomach ulcers. It is analgesic, antipyretic, anti-inflammatory, sedative, emetic and has insecticidal properties.
- **Other uses**: Due to its saponin glycoside content, it is used as a foaming agent in detergents, film emulsions, fire extinguishing tubes and the leather industry. In Turkey, it is mainly used in special sweets. It is a wild flower and a common weed.
- **Caution**: At least one member of this genus has roots that are rich in saponins. Although toxic, these substances are very poorly absorbed in the body and so tend to pass through without causing harm. It is advisable not to eat large quantities of food that contains saponins. Saponins are much more toxic to some creatures such as fish, and hunting tribes have traditionally put large quantities of them in streams, lakes, etc. in order to stupefy or kill the fish.

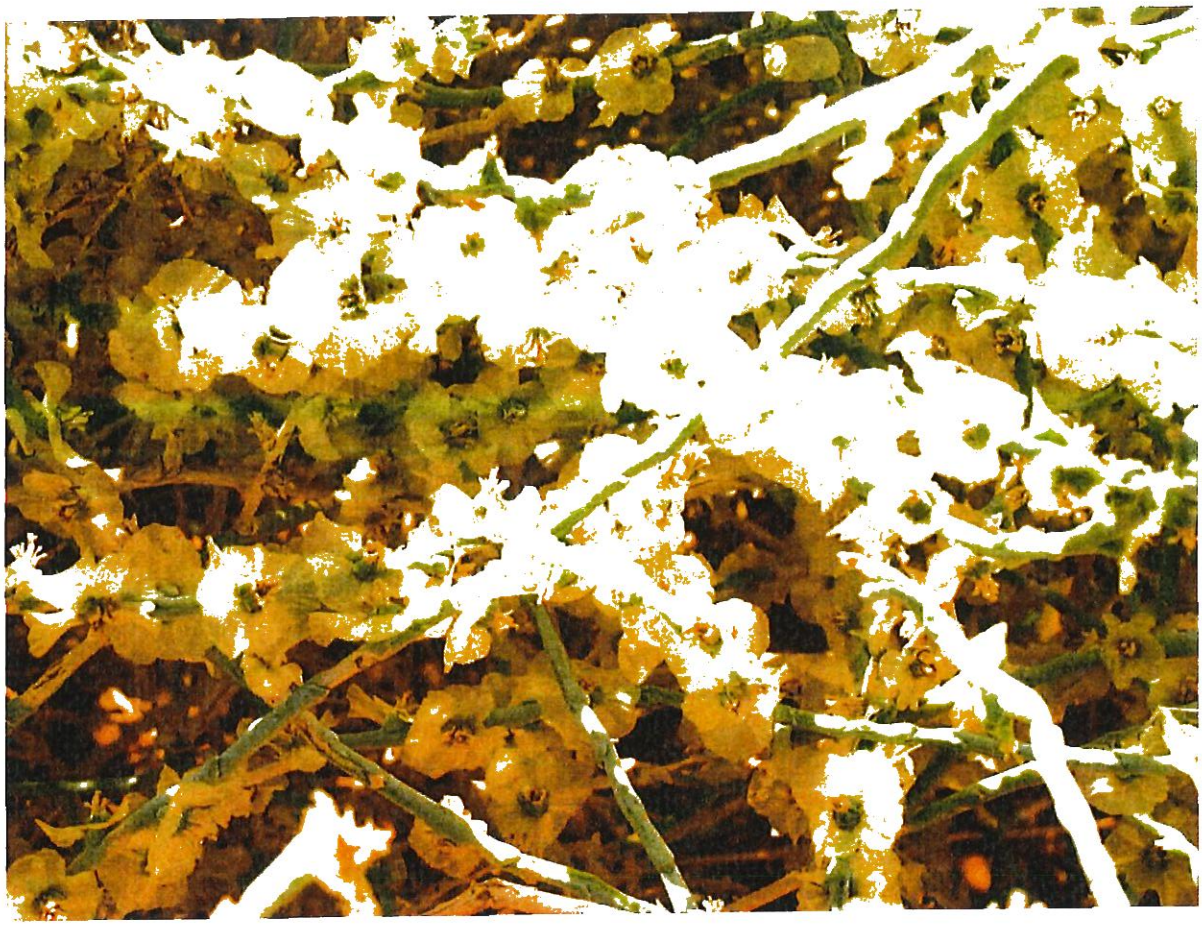
- **Arabic name**: Gypsofyl Barri
- **Scientific name**: *Gypsophylla pilosa* Huds
- **Common name**: Hairy Soapwort
- **Family name**: Caryophyllaceae
- **Growth habit**: Herb
- **Life cycle**: Annual
- **Part/s used**: Aerial parts
- **Chemical constituents**: Although not specifically characteristic for this species, the major chemical constituents of Caryophyllaceae are saponins, phytoecdysteroids, benzenoids, phenylpropanoids, and nitrogen-containing compounds. The most important property of plants in this family is their anticancer activity.
- **Pharmacological action**: The plant has antiradical and antioxidant activity. Plants of the family possess anticancer, antibacterial, antifungal, antiviral, antioxidant, and anti-inflammatory properties. Other miscellaneous properties reported are ribosome inactivation properties, the inhibition of prostatic enlargement in rats, the inhibition of the intestinal enzyme carboxylasterase in rats, cerebro-protective activity, and anti-obesity activity in rats.
- **Other uses**: A wild flower.
- **Caution**: No reports.

- **Arabic name**: Sebta
- **Scientific name**: *Halocnemum strobilaceum* (pall) M. Bied.
- **Common name**: Cone-like Jointed Glasswort
- **Family name**: Chenopodiaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Aerial parts.
- **Chemical constituents**: Coumarins from the aerial part include 7-hydroxy-3-methylcoumarin, oreoselone and heraclenin.
- **Pharmacological action**: The plant has insecticidal activity, and is used for fevers and intensive headaches. It is a stimulant.
- **Other uses**: It is a perennial rangeland plant with a spherical shape. Its flowers are minute. The plant is salt tolerant and found in sandy soiled places in the Dead Sea area and other places in the country. It has an attractive morphological vegetative growth.
- **Caution**: No reports.

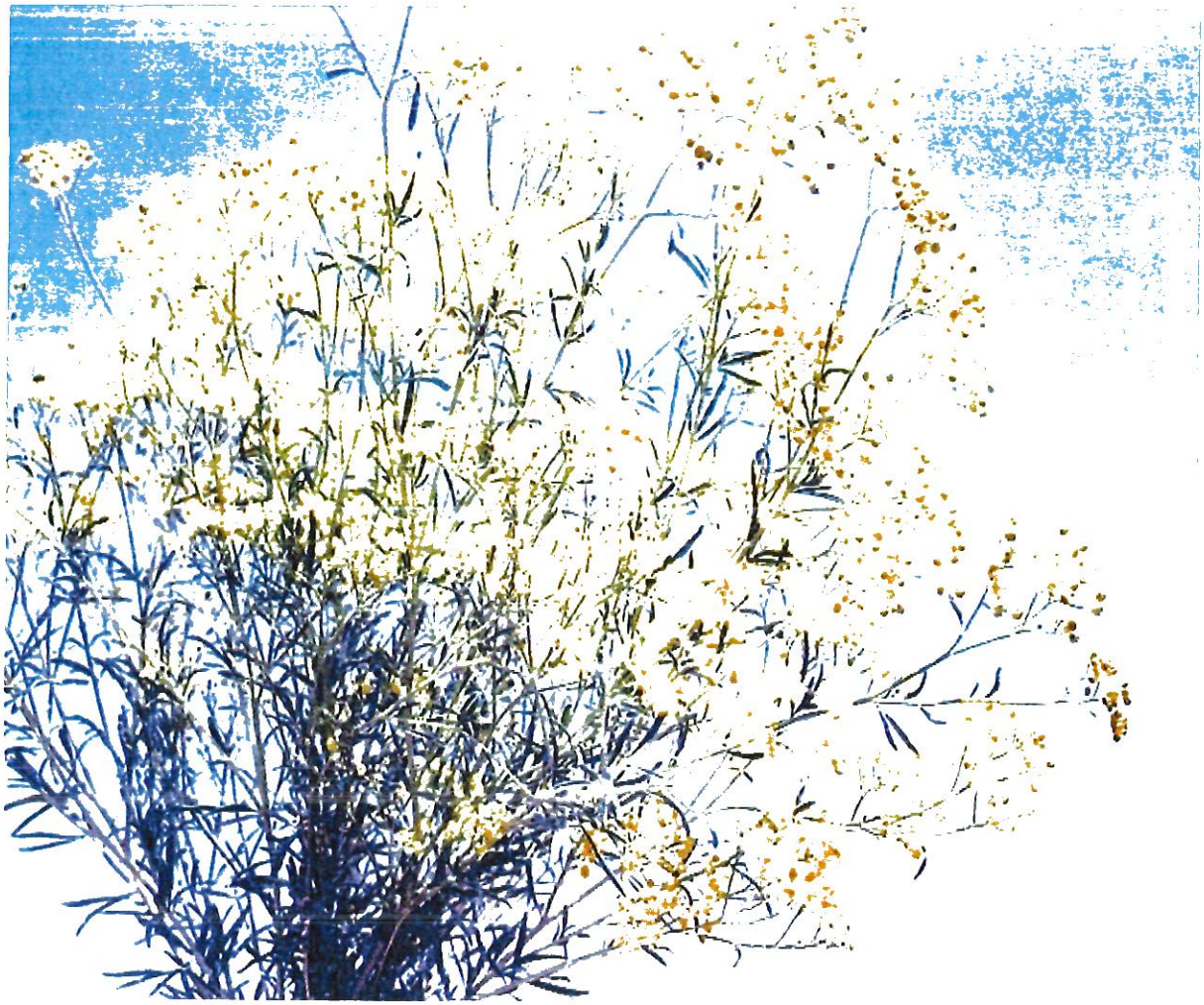
At Al-Shomari Biosphere Reserve

Dana Biosphere Reserve

- **Arabic name**: Ghada
- **Scientific name**: *Haloxylon persicum* Bunge ex Boiss. & Buhse
- **Common name**: Salt Tree, White Saxaoul
- **Family name**: Chenopodiaceae
- **Growth habit**: Small tree
- **Life cycle**: Perennial
- **Part/s used**: Vegetative parts.
- **Chemical constituents**: Alkaloids, tannins, flavonoids (free glycine, glycoside), sterols, triterpenoids, carbohydrates, saponins, glycosides, proteins, and/or amino acids.
- **Pharmacological action**: It is anti-bacterial, especially against *Pseudomonas aeruginosa* and *Proteus mirabilis,* and it has also strong antifungal effects against *Candida tropicalis.*
- **Other uses**: The plant's wood is used for fuel and for carpentry in general. The plant is a sandy dunes binder.
- **Caution**: No reports.



- **Arabic name**: Remth
- **Scientific name**: *Haloxylon salicornicum* (Moq.) Bunge
- **Common name**: Gatha
- **Family name**: Chenopodiaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Vegetative parts, leaves, and seeds.
- **Chemical constituents**: Several alkaloids including haloxynine in the aerial parts, a new piperidyl alkaloid, piperidine, halosaline, anabasine, hordenine, N-methyltyramine, haloxine and aldotripiperideine. Haloxynine, halosaline, haloxine, anabasine and smipine are the major alkaloids. Protein, crude fibres, mineral elements, phenolic amino acids, tannins, saponins and glycosides are also present.
- **Pharmacological action**: The plant is used for hypoglycaemia. Some of its alkaloids are known to be strong agonists at nicotinic acetylcholine receptors and thus are likely to serve as chemical defence compounds against insects and mammalian herbivores.
- **Other uses**: Salt extracted from the plant is used as a special ingredient for dehydrated circular discs made of cereal or pulse in the flour industry due to its unique taste. The plant is used as a fuel, fodder and food.
- **Caution**: No reports.



- **Arabic name**: Thifr Al-Tees, Karachan, Shajarat Al-Bao'od, Thafra, Feigan, Musaykah, Sinan at-Tais
- **Scientific name**: *Haplophyllum tuberculatum* (Forssk.) Ad. Juss.
- **Common name**: Plant of the Mosquito, Sazab, Zeita, Kheisa, Mesaika
- **Family name**: Rutaceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The leaves' juice, and all plant parts.
- **Chemical constituents**: The essential oil is made from estragole, myrtenal, spathulenol and a homologous series of medicinally important monoterpenes, sesquiterpenes, flavonoids and coumarins. Fatty acids include palmitic, stearic, oleic, linoleic, and linolenic. Quinoline alkaloids and cytotoxic lignans are also present. The major components of the essential oil are β-phellandrene, limonene, (*Z*)-β-ocimene, β-caryophyllene, myrcene, and α-phellandrene.
  The plant contains alkaloids, tubacetine, tubasenecine, haplotubinone and haplotubine, lignans named as kusunokinin, chaerophyllin, justicidin A as well as an alkaloid, lipids including campesterol, stigmasterol, and □-sitosterol, as well as betulin and lupeol.
- **Pharmacological action**: It is abortifacient, analgesic, sedative, febrifuge, a local anti-poison, aphrodisiac and stimulant. It is a cure for chest pains, dysmenorrhoea, flatulence, gastrosis, hysteria, puerperium, and rheumatism. It is also used for backaches, muscle cramps, ophthalmia, vomiting, nausea, constipation, malaria, difficult childbirth, anaemia, gastric pains, intestinal worms and ear troubles. The herb's decoction is used for rheumatic and abdominal and digestive system pains. The leaf juice is a remedy for headaches and arthritis, removes warts and freckles from the skin and treats skin discolouration, infections, parasitic diseases and gynaecological disorders. The essential oil has antibacterial and antifungal effects.
  In folk medicine, essential oil from the flowering and fruiting plant is used as a febrifuge, anti-poison, antispasmodic, and a cure for rheumatoid arthritis, gynaecological disorders, allergic rhinitis, asthma and breathing difficulties. Leaves are a remedy for headaches and arthritis.

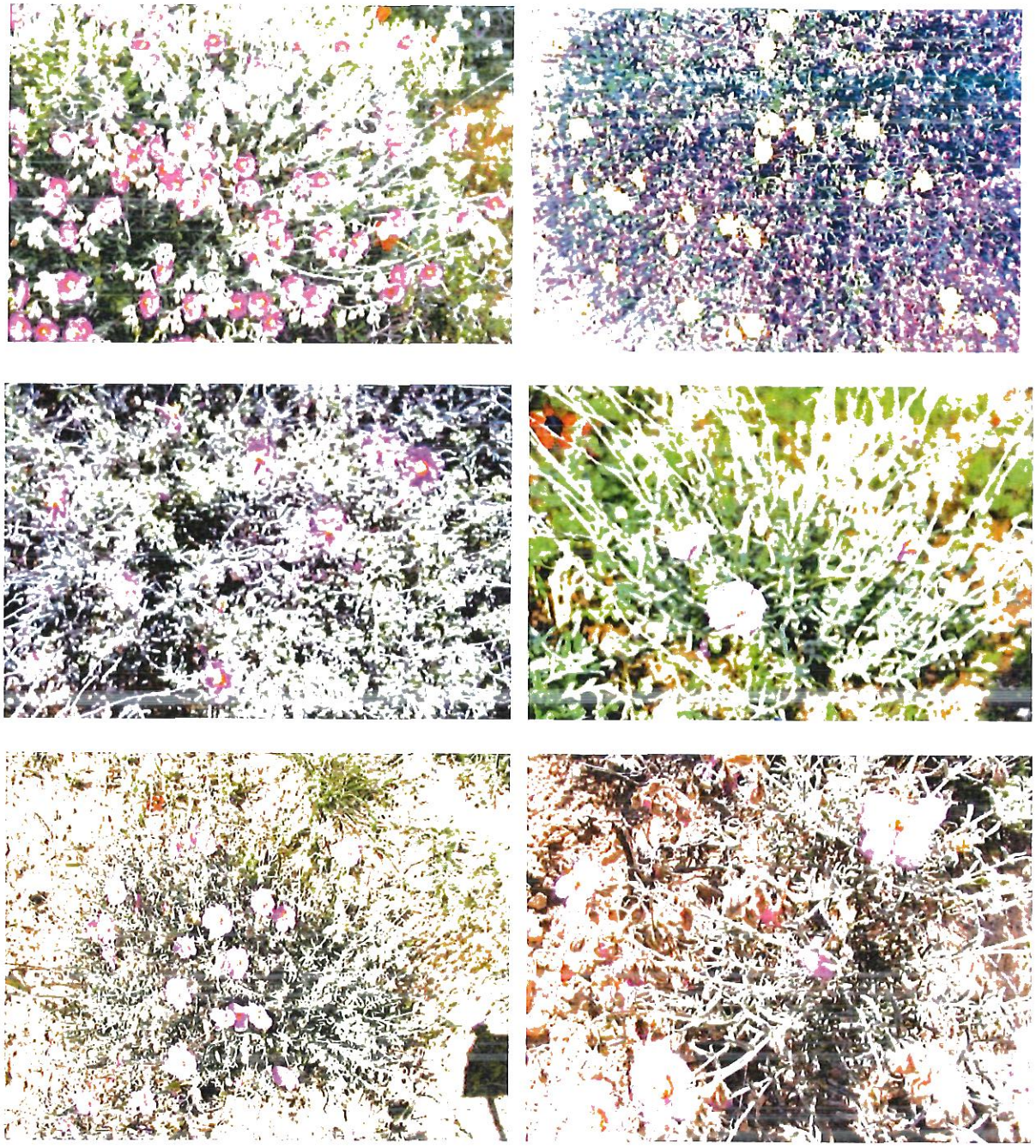
The leaf oil is useful for deafness and eye problems since it relaxes the muscles, reduces muscle inflammation, paralysis, nephritis and acts as a deodorant. When mixed with honey it helps cure skin problems including leucoderma. The plant is used for urination and menstruation problems, reduces blood pressure, and has a strong effect in curing dizziness and abdominal colic. It helps with insect, scorpion and snake stings and bites, and is useful for cystitis and urinary system disinfection, stops uterus bleeding, cures paralysis, eases birth since it is a uterus stimulant and reduces dyspepsia and gout. It is anthelmintic, an appetizer and antimicrobial, expels kidney stones, and increases body weight due to being fatty.

- **Other uses**: It is an aromatic flavouring agent and is used in industry to prevent metal from rusting. The plant is a wild flower.
- **Caution**: No reports.

In its natural habitat

A single plant

- **Arabic name**: Rfeeda
- **Scientific name**: *Helianthemum vesicarium* Boiss
- **Common name**: Pink Sun Rose, Rock-Rose
- **Family name**: Cistaceae
- **Growth habit**: Shrub
- **Life cycle**: Perennial
- **Part/s used**: Flowers and aerial parts.
- **Chemical constituents**: Volatile oil, wax, tannin, fatty oil, glycoside, chlorophyll, gum, and inorganic salts.
- **Pharmacological action**: The plant has antibacterial, tonic, stimulant and astringent properties. It is used for syphilis, chronic and bloody diarrhoea, itching, ophthalmia, ulcers, irregular circulation, as a skin wash and for mouth ulcers. Externally, leaves poultices are placed on the body for polluted tumours, ulcers and diarrhoea. The plant is useful as a wash for itching and as a gargle for scarlatina resulting from haemolytic *Streptococcus*.
- **Other uses**: It is a wild flower, and it may be used as a soil cover. The plant is visited by honey bees and roots of certain species of the genus are usually associate with the truffles.
- **Caution**: Excessive doses may cause vomiting and nausea.



Different *Helianthemum* species and colours

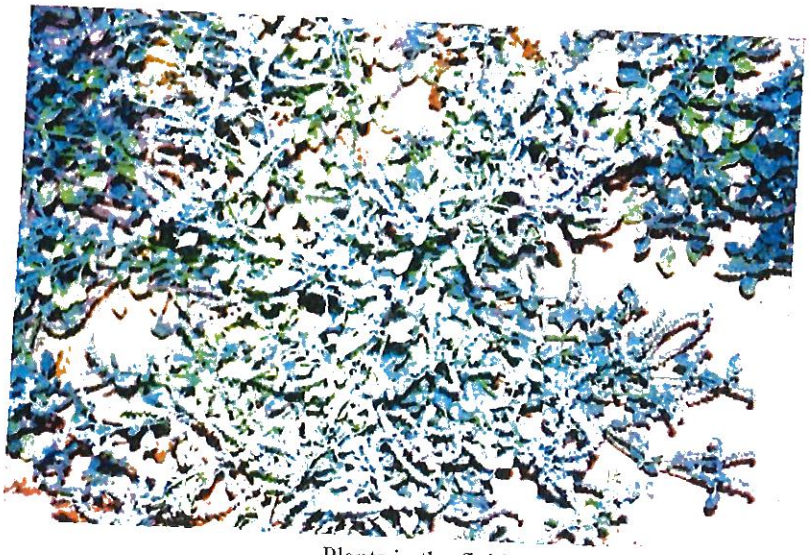
- **Arabic name**: Kharshoof
- **Scientific name**: *Helianthus tuberosus* L.
- **Common name**: Jerusalem Artichoke
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: Tubers and flowers.
- **Chemical constituents**: Inulin in tubers.
- **Pharmacological action**: A tincture of the blossoms is used for the treatment of bronchitis. Tubers are used as a nutritious and easily digestible food; they are also dried, pounded and chewed to relieve sore throats.
- **Other uses**: A wild flower.
- **Caution**: No reports.

- **Arabic name**: Rejl Al-Qitt, Bzaz Al-Athra'a, Dam Al-Maseih, Khalida, Thahab Alshams
- **Scientific name**: *Helichrysum sanguineum* (L.) Kostel
- **Common name**: Everlasting, Sungold, Red Everlasting
- **Family name**: Compositae / Asteraceae
- **Growth habit**: Herb
- **Life cycle**: Perennial
- **Part/s used**: The fresh or dried flowers, or the entire flowering herb.
- **Chemical constituents**: The *Helichrysum* genus is complex with a wide variety of chemical classes: flavonoids, chalcones, phloroglucinol derivatives, α-pyrones and diterpenes. Species of this genus also contain tannins, resin, pigments, sugars, saponins, mineral salts of sodium, calcium, potassium, iron, manganese, phytosterine, and essential oil containing neryl acetate, nerol, geraniol, pinene, and linalool. Isosalipurposide, naringenin, naringenin-5-O-diglucoside, helichrysum A, helichrysum B and glucosides of apigenin, luteolin, kaempferol and quercetin are also present, together with arenarin, alkyl carbonic acids, organic acids, carotenoids, steroids, tanning agents, quinones, coumarins, heterocyclic O-containing and aromatic compounds.
  Helichrysum arenarium oil is constituted of β-caryophyllene, δ-cadinene, octadecane, heneicosane, monoterpenes and oxygenated monoterpenes, aliphatic hydrocarbons, and sesquiterpenes.
- **Pharmacological action**: *H. sanguineum* is a hypnotic, sedative, narcotic, psychotropic, antibacterial, antioxidant, anti-viral, anti-fungal, antimicrobial and anti-inflammatory plant. It has been mentioned that its smell causes dreams.
  In folk medicine, leaves of *Helichrysum* are used as incense and dry leaves are used as a body ointment. They have anti-fungal, anti-bacterial, disinfectant, and insect repellent properties. The plant is utilized for respiratory diseases and burned plant smoke inhalation is calming, soothing and purifies the body.
  Plants of different species of this genus have choleretic, cholagogue, anti-malarial, anti-diabetic, anti-proliferative and anti-tuberculosis activities. They are helpful for circulatory disorders, relieve rheumatic pain and arthritis, and are beneficial for colds, flu, bronchitis, coughs, cholecystitis, jaundice and asthma. Oil from

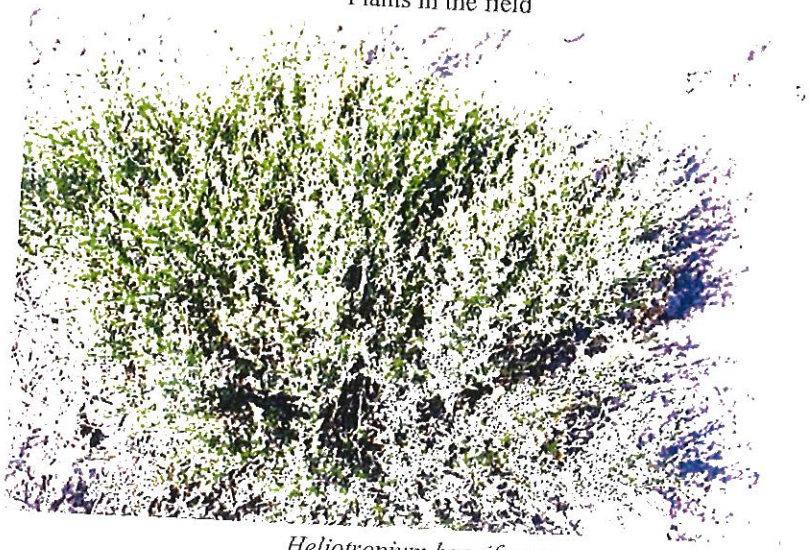
the plants has regenerating qualities and can assist in healing scars, acne, dermatitis, stretch marks, boils and abscesses.

- **Other uses**: The flowers of *H. sanguineum* are gold, and their garlands and ointments give benevolence and glory, when they receive the sun's rays they shine like gold and never fade. They protect clothes with their smell. Different herbal remedies are prepared with the essential oil of *Helichrysum*; the oil is colourless or light yellow and known as a natural burner, and the plant is regarded as a nice wild flower.
- **Caution**: It should never be prescribed in cases of gallbladder clogging. Caution is required since it is poisonous to humans and animals.

- **Arabic name**: Hashishat Al-Aqrab, Rumrum, Raqeeb Al-Shams
- **Scientific name**: *Heliotropium europaeum* L.
- **Common name**: Heliotrope, European Heliotrope, European Turnsole.
- **Family name**: Boraginaceae
- **Growth habit**: Herb
- **Life cycle**: Annual or perennial
- **Part/s used**: The entire plant, leaves, and seeds.
- **Chemical constituents**: Stems and leaves contain tannin and an alkaloidal principle. Pyrrolizidine alkaloids, heliotrine, heliorin, tasiocarbin, eurobin, saponins, heliocrin, lasiocarbin, and cynoglossine are in the seeds. The plant also contains an essential oil.
- **Pharmacological action**: The plant is emetic, hepatic and used for liver pain and liver tumours. Its leaves are boiled in sesame oil and applied on pimples and for skin eruptions. It is refrigerant, insecticidal and anti-dermatitic. The leaves are emollient and diuretic. According to folklore it is used for skin pruritus and scabies, and as an emmenagogue and stomachic; it is also used for washing cuts, sores, boils and arthritis. Plant juice is used for facial acne, coughs, fevers, ulcers, gum-boils, as a gargle for sore throats and for tonsillitis. Large doses of its flowers are abortive. The roots are used for asthma, vomiting, amenorrhoea, high blood pressure, gum-boils, to clean up ulcers and for eye infections. A leaves decoction is used for washing new-born babies, dermatitis, eczema, impetigo in children, thrush, poultices, rheumatism, wound healing, sore throats and pulmonary diseases. It also treats scorpion stings, prevents conception and induces abortion by means of pounded leaves.
- **Other uses**: Wounds of cattle are washed with the fresh juice of the plant. The plant is a wild flower.
- **Caution**: The ingestion of these plants, especially in large amounts, has effects on major body organs such as the liver, heart and kidneys. Symptoms include stomach aches, fatigue, and death. The pyrrolizidine alkaloids are the toxins. The stems and leaves contain tannin and an alkaloidal principle. The toxic unsaturated pyrrolizidine alkaloids are heliotrine and cynoglossine.
  The alkaloid heliotrine, from the seed of *Heliotropium indicum*, was found to have ganglion-blocking activity. Pyrrolizidine alkaloids have been shown to cause toxic reactions in humans, primarily veno-occlusive disease, when the plant is taken as a herbal medicine or with food. It is also believed to cause liver damage.

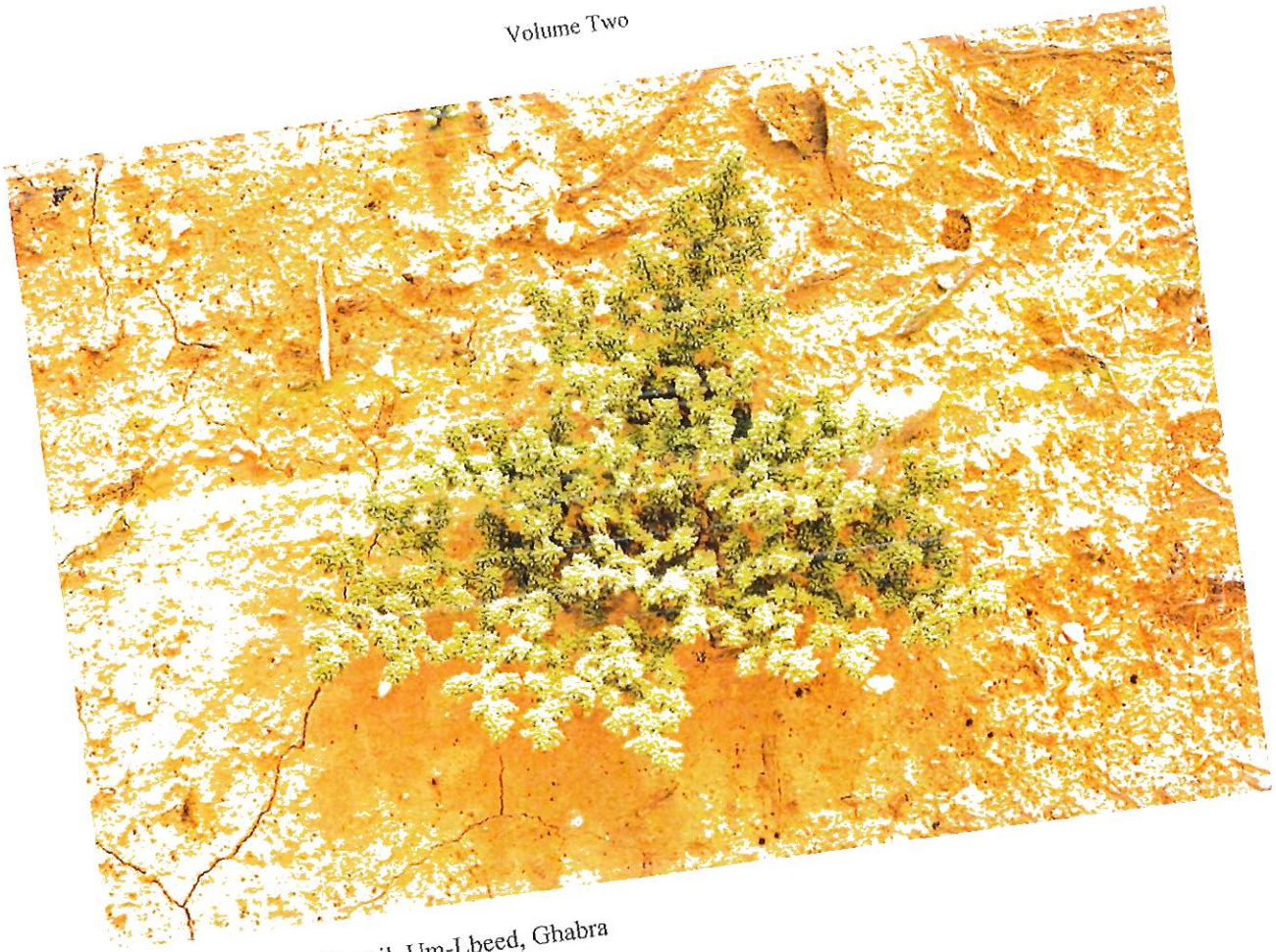


Plants in the field



Heliotropium bacciferum

Heliotropium sp.



- **Arabic name**: Shweil, Um-Lbeed, Ghabra
- **Scientific name**: *Herniaria hirsuta* L.
- **Common name**: Hairy Burst Wort, Rupturewort
- **Family name**: Caryophyllaceae
- **Growth habit**: Herb
- **Life cycle**: Annual or Biennial and occasionally Perennial
- **Part/s used**: Flowering stems and the whole plant.
- **Chemical constituents**: Triterpene saponins, which may be transformed into gallatonic and glucose acids and other sugars. In addition, the plant contains flavones, glucosides, rutin, herniarin glucoside, and essential oil.
- **Pharmacological action**: The plant is used for urinary constrictions and disorders, hernias, colds, kidney stones, stimulates the kidney and reduces dropsy. It is also used alone or in a herb mixture for gallbladder and hernia treatments. It helps to prevent sand and kidney stone formation and is used for eczema and psoriasis.
- **Other uses**: The plant is employed in washing or cleaning domestic pets, since it produces foam like soap with water.
- **Caution**: No reports.

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GLOSSARY OF MEDICAL TERMS

Abdominal colic: Intense cramping or colicky pain, which may be accompanied by nausea and vomiting.
Abortifacient :A material that causes abortion.
Acne: An inflammatory follicular, popular and pusular eruption involving the sebaceous apparatus.
Acute and chronic pancreatitis: Acute pancreatitis is an inflammatory condition of the pancreas that is painful and at times deadly. Chronic pancreatitis is long-lasting inflammation of the pancreas. It most often happens after an episode of acute pancreatitis.
Adaptogen: Having substances that increase the body's own response to oxidative stress (a phenomenon that is not conclusive by receptor theory).
Adenopathy: Enlargement of glands.
Adrenal gland stimulant: Stimulates the adrenal gland to release its hormones at a faster rate.
Alkaloids: A hetero-group of basic materials that consist of nitrogen-containing ring compounds, secondary compounds (not primary) to a plant's life but which are found in plants and usually have strong medicinal activities.
Allelochemicals: Secondary metabolites produced by certain plant species and have inhibitory or stimulatory effects on the same or other plant species or microorganisms.
Alopecia :An organic disease that causes temporary hair loss.
Alterative: A medicinal substance that acts gradually to nourish and improve the system.
Amenorrhea: Delayed menstruation.
Amoebiasis: A disease caused by *Entamoeba histolytica*, a pathogenic intestinal amoeba spread by cysts or parasitic infection in the gastrointestinal tract; amoeba entamoeba histolytica.
Anaesthetic: Pertaining to, characterized by or producing anaesthesia.
Analeptic: Stimulates the central nervous system; acts as an antispasmodic and anticonvulsant; and improves breathing by stimulating the respiratory muscles.
Analgesic (Anodyne) :A material that reduces, relieves or eliminates pain.
Anaphordisiac :A material that reduces potency.
Anemia: Blood deficiency resulting from a reduction in blood red cells' number or amount of oxygen that carries the hemoglobin into these cells.
Angina pectoris: A sudden severe ailment in the centre of the chest resulting from a deficiency in blood supply to the heart.
Anhidrotic (Antidiaphoretic): The deficiency or absence of perspiration; adiaphoresis.
Anodyne: Soothes and relieves pain.
Anorexia: An eating disorder characterized by markedly reduced appetite or a total aversion to food. It is a serious psychological disorder.
Anthelmintic (Vermifuge): Expelling or destroying parasitic worms, especially of the intestine.
Anti neuralgia: A substance that removes nerve ailments
Antiallergic: Against immunologic response in a susceptible person to exposure to an allergen.
Antiasthmatics: A substance that removes or prevents contraction of air passage and breathing and thus cure asthma.
Anticarcinogenic: Acting as an anti-neoplastic agent, it acts against metabolites, alkylating agents, plant alkaloids (inhibit cell division), antibiotic, and taxanes (stabilize the mototoc spindle).
Anticatarrhal: Reduces formation of mucous.
Anticoagulant: Prevent clotting of blood. Any substance which prevents blood coagulation.
Anticonvulsant: Agent preventing or arresting convulsions. It suppresses the rapid and excessive firing of neurons that start a seizure.
Antidepressant: Drugs used in the treatment of depressive illness, which include tricyclic compounds (amitriptyline, imipramine).
Antidiabetic: A substance that prevents or cures diabetes.
Antidiaphoretics (Anhydrotics): A material that contains substances act against excessive perspiration.
Antidiarrhoea :A plant that cures diarrhoea because of its contents from relatively contracting materials that stop diarrhoea.
Antidote: A material that causes detoxification.
Antiemetic: Prevents or alleviates nausea and vomiting.
Antilithic: Reduces and suppresses the formation of urinary calculi (kidney stones) by dissolution.
Antimicrobial (vs. Antibacterial): Prevents the growth of bacteria, fungi, and some viruses.
Antinociceptive: Inhibits nociception, the sensation of pain.
Antiphlogistic: An agent that reduces or counteracts inflammation.
Antipyretic (Febrifuge): A medicine that lowers body temperature to prevent or alleviate fever.
Anti-rheumatic: Suppresses manifestations of rheumatic disease

Antisclerotics: A plant contains materials that reduce blood lipids.
Anti-scrofulous: Prevents or relieves scrofula, a tuberculosis infection of the lymph nodes that is most often caused by the bacterium *Mycobacterium tuberculosis*, which can be spread through the inhalation of contaminated air.
Antiscurvy: An antiscurvy material.
Antiseptic: A material that kills or inhibits the growth of diseases caused by bacteria and other germs.
Antispasmodic: Relieves or prevents smooth muscle spasms.
Antisyphilitic: Having an effect on or curing venereal diseases.
Antithrombiotic: Any substance capable of inhibiting the effects of thrombin so that blood does not clot.
Antitussive: A plant that prevents, suppresses or removes coughing.
Anxiety: Feeling of apprehension from the anticipation of danger, which may be internal or external.
Anxiolytic: Inhibits anxiety.
Aperient: Having a mild laxative or purgative effect without purging; a mild bowel stimulant.
Aperitive: Stimulates appetite.
Aphrodisiac: An agent that is alleged to increase libido or the duration of sexual activity.
Apoplexy: Sudden stroke. An effusion of blood into a tissue or organ.
Apoptotic: Effects in colorectal cancer cells.
Appetite: An agent that strengthens the stomach and stimulates its active releases; it is used as a strong appetizer.
Aqueous: An extract obtained from a plant or a plant part by steeping it in water.
Arched back: Curved back because of illness.
Aromatherapy: The treatment of worry or nervousness, or medical conditions that are not serious, by rubbing pleasant-smelling natural oils into the skin or breathing in their smell: aromatherapy massage or aromatherapy oils.
Aromatic oil: An oil of aromatic smell and pleasant taste and mostly volatile.
Aromatic plant: A plant that contains materials of aromatic smell and pleasant taste.
Arrhythmia: Any deviation from a natural status of the heart.
Arteriosclerosis: Overall results of deteriorating defects that affect veins and result in sclerotic sides.
Arthralgia: Pain in the joint.
Arthritis: Joints inflammation that are characterized by swellings, sclerosis and pain with reduced motion.
Ascites: Accumulation of free fluid in the peritoneal cavity. It causes abdominal distention with fullness of flanks.
Asthenia: Loss of strength; disability.
Asthma: Alteration in breath restrictions, rapid breathing associated with disturbance in blood circulation and mucus membrane releases of respiration tracts.
Astringent: A binding agent that contracts organic tissue, reducing secretions or discharges of mucus and fluid from the body.
Bacteriostatic: A material that stops or reduces growth and duplication of bacteria numbers.
Barrenness: Sterile, incapable of producing offspring.
Basal: Forming a base.
Bedsores: Decubitus ulcer, pressure sore, ischaemic necrosis and ulceration of tissue especially over a bony prominence.
Bedwetting: Enuresis, urinating that occurs while someone (such as a child) is sleeping in bed.
Benign prostatic hyperplasia: A non-malignant enlargement of the prostate due to an excessive growth of the prostate tissue, present in elderly males as nocturia; difficulty in urination and diminished force of the urinary stream.
Bile pigment: Highly coloured substances such as bilirubin and biliverdin found in bile that are derived from haemoglobin.They impart brown colour to the stools.
Biliousness: A disorder of the liver characterized by nausea, abdominal discomfort and constipation.
Bioactive: Interaction with, or effect on, any cell tissue in the human body.
Biopsies: Removal of a piece of tissue from the body and examining it microscopically after staining for purpose of diagnosis aspiration.
Bitter (Appetizer): A plant that contains bitter materials stimulates the appetite and affects the secretions of the gall bladder.
Bitter tonic: Acts on mucus membranes of the mouth and stomach to stimulate the flow of saliva and gastric juices that promote digestion; used for a temporary loss of appetite.
Blear visio: Unclear, ambiguous sighting.
Blenorrhea: discharge from the urethra or vagina due to gonorrhea.
Blistering: An elevation of the epidermis conaining fluid.
Bloat: Swollen.
Blood clotting: The conversion of blood from a free flowing liquid to a semisolid gel.
Blue babies: A neonate with cyanosis of any aetiology.
Boil: Infection of a hair follicle by staphylococci. It is characterized by redness, swelling, heat and tenderness.
Bone resorption diseases: It is a resorption of bone tissue, that is, the process by which osteoclasts break down the tissue in bones and release the minerals, resulting in a transfer of calcium from bone tissue to the blood.

Breast cell line: Breast cell cancer. A malignant neoplasm of breast tissue in women between age of 30 and 50 may present as a small painless lump, thick or dimpled skin or nipple retraction, nipple discharge, ulceration and enlarged axillary lymphnodes, metasteses through the lymphatics to axillary lymph nodes and to bone, lung, liver and brain.

Bronchitis: Inflammation of the respiratory tract that is characterized by coughing and mucus secretion.

Bruises: Superficial injury. It is an injury that appears as a purple mark on the body, although the skin is not broken.

Cancers: Diseases caused by diorders or defections in cells' functions that can affect tissues and spread in the body in different shapes, and mostly cause death.

Caoutchouc: An elastic material obtained from the latex sap of trees (especially trees of the genera Hevea and Ficus) that can be vulcanized and finished into a variety of products.

Carbuncles: Large multilocular boil of the skin and deeper tissues. It terminates in a slough and suppuration. It is associated with systemic manilestation.

Carcinogenic: Any substance or agent that tends to produce a cancer.

Cardiac: Any material that affects the heart.

Cardioprotective: Protect heart from being attacked by diseases or other factors.

Cardiotonic: A plant that contains materials affecting the heart's function.

Cardiovascular diseases: Diseases that affect heart and blood vessels such as a collapse resulting in a sudden loss of effective blood flow.

Carminative: An agent for easing griping pains, colic and expelling gas from the intestines. It relieves gas and gas pain in the bowels.

Carthartic: Empties bowels as with a gentle laxative effect.

Cataplasm: A poultice or plaster. A soft moist mass, often warm and medicated, that is spread over the skin to treat an inflamed, aching or painful area, to improve the circulation, etc.

Cataract formation: A cataract is a clouding of the lens in the eye which leads to a decrease in vision or opacity of the lens of the eye, its capsule or both capsulars.

Catarrh: The release of a thick nasal mucus from mucus membranes in the nose and throat.

Catarrhal affections: Inflammation of the mucous membrane of the nasopharyngeal mucous.

Catarrhal disorders: Catarrh is a disease of the mucus membrane of the nasal passages and those cavities of the head communicating with them. Insignificant as it appears in its first stages, it is apt in its progress to become instrumental in causing the loss or impairment of smell, taste, hearing and sight, and of creating serious constitutional derangements, not infrequently terminating in consumption.

Cathartic: Cleansing the bowels, promoting evacuations by stool, purgative.

Cellulitis: Inflammation of the skin and tissues beneath it from a bacterial infection.

Central nervous system: The part of the nervous system that contains the brain and spinal cord.

Cephalalgia: Headache: Headache, or cephalalgia, is defined as diffuse pain in various parts of the head, with the pain not confined to the area of distribution of a nerve.

Cerebral edema: Cerebral, pertaining to the cerebral hemisphere. Water retention and swellings of brain.

Cervical cancer (Neck cancer): Cervical cancer affects the entrance to the uterus (womb). The cervix is the narrow part of the lower uterus, often referred to as the neck of the womb.

Chancre: A painless sore usually in the genitals that develops during the primary syphilitic ulcer, a true ulcer which is hard ovoid with sloping edges, a blood stained discharge.

Cholangiocarcinoma (bile duct cancer): Cholangiocarcinoma is cancer that forms in the slender tubes (bile ducts) that carry the digestive fluid bile. Bile ducts connect your liver to your gallbladder and to your small intestine. This condition, also known as bile duct cancer, is an uncommon form of cancer that occurs mostly in people older than age 50, though it can occur at any age.

Cholecystitis: Inflammation of the gall bladder. Cholecystitis refers to a painful inflammation of the gallbladder's wall. The disorder can occur a single time (acute), or can recur multiple times (chronic).

Choleretics, Cholagogues: Materials that either stimulate gallbladder productions or are released in the gall and pancreas glands in the duodenal part.

Chronic myelogenous leukemia (CML): A persistent blood cancer. It is an uncommon type of cancer of the blood cells.

Chronic pancreatitis: An inflammation of the pancreas that does not heal or improve – it gets worse over time and leads to permanent damage.

Chronic: Chronic disease that associated with very slow changes or a disorder that persists for a long time.

Cicatrizant: Form a scar or a medicine or application that promotes the healing of a sore or wound, or the formation of a cicatrix.

Colic: Painful and abdominal spasmodic.

Cologne: A type of perfume, a liquid that smells good and is meant to be dabbed behind the ears.

Coma: A case of very deep and long unconsciousness.

Conjunctivitis: Inflammation of the mucus membrane that covers the eye's front part and lines in the eyelid.

Constipation: The rare expelling of feces from the intestine for an unusually long period.

Contusions: A bruise, an injury without a break in the skin or an injury, as from a blow with a blunt instrument, in which the subsurface tissue is injured but the skin is not broken.

Convulsion: Very strong contractions in muscles.
Copious diuresis: Postobstructive diuresis is a polyuric state in which copious amounts of salt and water are eliminated after the relief of a urinary tract obstruction.
Cornea: The transparent outer covering of the eye that protects the front of it.
Corns: Small calloused areas of skin caused by local pressure irritating tissue over a bony prominence. Corns most commonly occur over a toe where they form what is referred to as a hard corn. Between the toes, pressure can form a soft corn of macerated skin which often yellows.
Costive: A materials of strong astringent that cause constipation.
Cramp: Spasmodic and painful contractions in muscles.
Crawling skin: Very uncomfortable and being scared. When something makes skin crawl, it makes feel unpleasant or uncomfortable.
Cross-reactivity: Reaction of antibody with several antigens or vice versa, indicative of similarity of antigen determinants.
Cutaneous diseases: Skin diseases
Cystitis: Inflammation of the bladder, usually caused by a bladder infection.
Cytotoxic: Inhibition of cells' functions; the destruction of cells or their functions are caused by antibodies or by toxins.
Dandruff: An excess amount of scaly material composed of dead keratinized epithelium shed from the scalp.
Decoction: An extract of soluble substances in water of a medicinal plant. It is a medicinal preparation.
Demulcent: A medication (in the form of an oil or salve, etc.) that soothes inflamed or injured skin. It relieves inflammation by soothing irritated membrane.
Dentition: The type, number or arrangement of teeth in the dental arch.
Deodorant: A substance which suppresses or neutralizes bad odour such as lime or bleaching powder.
Depression: A reduction in the level of body functions or nerve activity because of a certain agent.
Depurative: An agent which is able to purify the blood or the humors (body fluids).
Dermatities: Inflammation of the skin characterized by itching, redness and various skin lesions.
Dermatophytosis: Infection by fungi that lives on keratinous structures and can infect the epidermis, the hair and the nails.
Detersive: Relating to or having detergent or cleansing activity; a **detersive** agent.
Diabetes: A defect in carbohydrates' metabolism, no sugar oxidation occurs in the blood for energy release because of a reduction in the insulin hormone.
Diaphoretic: An agent that promotes perspiration.
Digestive: An agent that aids digestion.
Discutient: Uncertain; any agent or process that disperses a tumour or lesion or causes the dispersal or disappearance of a pathological accumulation (tumors).
Disinfectant: A material that kills bacteria and other germs.
Diuretic: Tending to increase the secretion and discharge of urine.
Dontalgic: Relating to or marked by toothache.
Dropsy (edema): A severe accumulation of liquid in the body tissues.
Drowsiness: Almost falling asleep.
DuctbBile: The duct that carries bile and pancreatic juice to the duodenum.
Duodenal ulcer: Ulcer in the first part of the duodenum. Sores in the mucus membrane of the duodenum intestine result from digestive acidic extract
Dysenteric: A disease caused by amoeba that contaminates food and water, resulting in bleeding with feces and a clear difficulty in controlling the feces.
Dysmenorrhoea: Painful menstruation.
Dyspepsia: Indigestion.
Dyspnea: Difficulty or laboured breathing; it is a subjective complaint.
Dysuria: Difficulty or pain in urination.
East coast fever: A lethal disease of cattle caused by the blood parasite.
Ecchymotic: Pertaining to a discoloured area on the skin or mucous membrane caused by extravasation of blood into the tissue.
Eczema: Dermatitis, associated with itching, redness and weeping.
Elephantiasis: Enlargement and thickening of tissues.
Emaciation: Loss of weight associated with meagerness.
Emetic: An agent that causes vomiting, in which the stomach is emptied of its contents.
Emmenagogue: An agent that promotes menstrual flow. It also called a hemagogue.
Emollient: Substances resembling cream that have a soothing and moisturizing effect when applied to the skin or an irritated internal surface.
Emphysema: Inflation, abnormal distension of an organ or part.
Enteritis: Inflammation of the intestines and especially of the human ileum.
Enuresis: Incontinence of urine. Involuntary urination, which may be caused by a variety of factors. These include disorders of the kidneys, bladder, or ureter and/or poor control of the muscles that control the release of urine.

Epilepsy: A sensory case characterized by an unexpected emergent phenomenon of severe symptoms combined with a temporary signal of a large number of nerve cells that release its electrical charges once.
Epiphora: An abnormal overflow of tears down the cheeks due to structure of the lacrimal duct.
Erysipelas: A contagious disease of skin and subcutaneous tissue with diffuse deepened inflammation due to infection with *Streptococcus pyogenes*.
Essence: A solution of aromatic oil in alcohol.
Essential oil: Volatile oil found in aromatic plants and contains terpinoides.
Estrogenic: An excitant sex hormone. Any of several major female sex hormones produced primarily by the ovarian follicles of female mammals, capable of inducing estrus, developing and maintaining secondary female sex characteristics, and preparing the uterus for the reception of a fertilized egg; used, especially in synthetic form, as a component of oral contraceptives, in certain cancer treatments, and in other therapies.
Ethanol-induced gastric ulcers: Ethanol-induced damage to the gastrointestinal mucosa causes changes in the structure of the gastroduodenal mucosa and an increase in lipid peroxidation, which may be due to the generation of oxygen-free radicals following ethanol administration as causative factor in these lesions.
Expectorant: Substance that induces the ejection of mucus, phlegm, and other fluids from the lungs and air passages by coughing or spitting.
Extract: Concentrated formulations of the active ingredients of plant or animal drugs obtained by evaporation of the drug solution in water, alcohol or ether.
Eye bath: A substance used to wash off any infections or other materials from the eye and help rapid recovery.
Famelial meditterainean fever (FMF): An inherited disorder presenting with fever, abdominal pain, chest pain and rash. Some may develop amyloidosis. The disease is self limited.
Fatigue: A state of exhaustion.
Fatty (Fixed) oil: A natural plant or animal nonvolatile oil which is a mixture of fatty acid esters.
Febrifuge: Abates and reduces fevers.
Fever: An abdominal elevation of the body temperature to above 37.7°C in a resting person.
Fibroblasts: Spindle-shaped undifferentiated cell in the connective tissue.
Fistulas: An abdominal passage from the internal organ to the body surface or between two internal organs.
Flatulence: Gas generation in the stomach and intestines.
Flavonoids: A group of plant metabolites; polyphenolic molecules, soluble in water, that create antioxidant effects through the activation of cell signalling pathways.
Fluid retention: Congestion of the gallbladder, causing the yellow digestive peptic to be retained inside and not released.
Food poisoning: Occurrence of a rapid onset of vomiting, profuse watery diarrhea and abdominal pain after the ingestion of preformed bacterial toxins elaborated by certain microbes.
Fractures: Injury to a bone wherein the continuity of the bone is broken. It is characterized by pain and tenderness, deformity in the form of swelling, shortening or angulation and loss of function.
Galactogogue: An agent which promotes milking in nursing mothers.
Galenical: An ideal original plant or animal preparation.
Gallstone: A solid mass from the cholesterol, a yellow dye and calcium salts formed in the bladder or duct bile.
Ganglion: A mass of nerve cell collection situated outside the central nervous system.
Gargle: A liquid drug placed in the mouth for certain period and is swilled from one side to another, and can also be placed in the throat.
Gastric, intestinal ailments: Stomach and intestines are irritated and inflamed.
Gastricpain: Commonly used to describe pain or discomfort in the upper abdomen. Other symptoms typically include heartburn, bloating, belching and nausea.
Gastritis: Inflammation of the stomach wall.
Gastroenteritis: Gastritis or fine intestine that usually causes vomiting or diarrhea.
Gastrointestinal disturbances: Stomach and intestine disturbance.
Genitalia: The organs of reproduction, especially the external organs.
Germicide: A material that kills bacteria and other microorganisms.
Giat anomalies: Deviating from or inconsistent with the common order, form, or rule; irregular; abnormal.
Gingivitis: Inflammation of the gums usually caused by poor dental hygiene.
Glaucoma: A condition that causes damage to eye's optic nerve and gets worse over time. It is often linked to a buildup of pressure inside the eye. It tends to be inherited and may not show up until later in life.
Gleet: Chronic acute inflammation.
Glycoside: A group of substances in the plant that contain carbohydrates particles (sugar) that are liable to be transferred by hydration into sugar and non-sugar materials. Glycosides have toxic side groups, secondary compounds (not primary) to a plant's life.
Gonorrhea: A sexually transmitted disease predominantly affecting the lower genital tract, rectum and conjunctiva.
Gout: A food metabolism disease that is described by painful inflammations of certain joints resulting from the salt deposit of uric acid in these joints.
Gravel: A small stone formulated in the urine duct and deposited with urine.

Gynaecologics: A plant species that contains materials affect the female sexual regenerative system some of which cure muscles contractions at the lower edge of the basin and menstruation ailments.
Gynecological disorders: The study of diseases peculiar to women especially those of genital tract and breasts.
Haematopoietic neoplasms: Neoplasms located in the blood and blood-forming tissue (the bone marrow and lymphatic tissue). The commonest forms are the various types of leukemia, of lymphoma, and of the progressive, life-threatening forms of the myelodysplastic syndromes.
Haemolysis: Breakdown of the blood red cells.
Haemostatics (Styptic): A plant contains substances that stop bleeding since cause blood vissles and tissue contractions.
Hallucination: Realization in that of something false not found or exists in reality.
Hallucinogen: A material that causes hallucination.
Hansen's disease: Leprosy, a chronic granulomatous infection caused by a bacterium which affects various parts of the body, including in particular the skin and nerves. (Granulomatous refers to the formation of granulomas, inflammatory nodules that are usually small, granular, firm, and persistent.) The bacterium responsible for leprosy is called Mycobacterium leprae or, for short, M. leprae.
Heart arrhythmia: Loss or an irregularity of cardiac rhythm.
Hematophage insects: Insects feeding on blood.
Hematuria: Presence of blood cells in urine.
Hemolytic: Effects, factors or substance that cause blood liquefaction.
Hemorrhaged: Internal or external excessive bleeding.
Hemorrhagic disorders: A group of conditions that result when the blood cannot clot properly. In normal clotting, platelets, a type of blood cell, stick together and form a plug at the site of an injured blood vessel.
Hemorrhoids (Piles): Enlarged (varicose) veins in the wall of the anus.
Hepatic: Acting on or occurring in the liver.
Hepatitis: An inflammation of the liver cells and damage to the liver. There are different types and causes, but the symptoms can be similar.
Hepatoprotective: A substance or a drug that protects the liver from hepatitis disease.
Hepatotoxic: Toxic substances that destroy liver cells.
Hepatotoxicity: Liver cells' destruction by a toxic substance.
Herbal compress: A dry, moist, hot or cold poultice with or without medical materials applied and pressed on the infected part of the body.
Hernia: Abdominal protrusion of an organ or structure through a defect of a natural opening found in a covering membrane, muscle or bone.
Herpes: Inflammatory disease characterized by small vesicles in clusters caused by herpes viruses.
Hiccup: Spasms of the diaphragm usually due to irritation in the upper abdominal area.
HIV-1 virus: Abbreviation for human immune-deficiency virus
Hives (hivz) urticaria: An itchy raised rash on the skin surrounded by inflammation, that result from the allergic reaction.
Hoarseness: Having a rough, harsh quality of voice.
Homeopathy: A system of medical practice that treats a disease, especially by the administration of minute doses of a remedy that would in larger amounts produce in healthy persons symptoms similar to those of the disease.
Hormone: A material that is produced in the body by an organ or cell in the organ and translocates to another organ to cause its regulatory effects.
Human colon carcinoma: A malignant tumour arising from cells in the surface layer of lining membrane of colon. They tend to infiltrate and metastasise to distant organ or parts of the body.
Human hepatocellular carcinoma: Hepatoma, primary malignant liver tumour. Aflatoxin contamination of foods, chronic hepatitis B and C virus infection, and cirrhosis are mainly responsible factors.
Hydrophobia: An acute viral disease of the nervous system of warm-blooded animals (usually transmitted by the bite of a rabid animal); rabies is fatal if the virus reaches the brain.
Hydropsy: Oedema, distension with fluid. An abnormal concentration of organic fluid in a tissue or cavity of the body. Even though it generally affects lower limbs, hydropsy can also impact any other organ of the human body.
Hypersensitivity: Abnormal sensitivity to any stimulus exhibiting an excessive response.
Hypertensive: Marked by increased blood pressure. An individual with abnormally high blood pressure.
Hypnotic (Soporific): A material that causes sleep.
Hypo-cholesterolemic: Markedly rduces amount of cholesterol in the circulating blood.
Hypoglycemic: Abnormal decrease of sugar in the blood.
Hypokalemia: Hypopotassemia; an abnormally decreased level of potassium ions in the blood circulation.
Hypolipidemic: Decreased lipid concentration in the blood.
Hypotensive: Agents causing diminished tension or pressure in a person.
Hypothalamus: A small area of the brain that helps to stimulate key functions. For example, it helps to regulate temperature and weight.
Ichors: Thin, fetid discharge from an ulcer or wound.

Immunohematology: A branch of immunology that deals with the immunologic properties of blood or the study of blood and blood-forming tissue in relation to the immune response.
Immunomodulatory: Having the ability to alter or regulate one or more immune functions, i.e. the stimulation of antibody formation or the inhibition of white blood cell activity.
Immunosuppression: Prevention of activation of an excessive or inapproperiate immune responseby drugssuch as corticosteroids, cyclophosphamide, methotrexate or cyclosporine.
In vitro: Outside the living body and in an artificial environment.
In vivo: Inside the living body of a plant or animal
Inappetence: Anorexia, lack or loss of appetite.
Incoordination: Inability to produce a coordinated action, lack of coordination.
Indurated breast: Hard breast.
Inflammatory: Pertaining to or marked by inflammation.
Influenza (Flu): Viral infection affecting the respiratory tract.
Infusion: Extraction of the water soluble constituents of a medicinal plant by raising the temperature up to its boiling point. The medical preparation can be obtained by this method.
Inhalation: A smelling material for curing the respiratory system and made from essential oils or well distributed solutions or fine powders taken through the nose.
Insanity: Mental derangement with unreliability of behavior with concomitant danger to himself and other.
Insecticide: A material that kills insects.
Insomnia: Chronic inability to sleep or staying awake for a long period.
Interferon-gamma: An interferon produced by the lymphocytes and large granular lymphocytes in response to foreign macromolecules
Intestinal glut: Intestine fills especially with food to satiety.
Intraocular pressure: Pressure within the eyeball.
Intraperitoneally: Within the peritoneal cavity.
Irritant: A material that causes tissue agitation.
Ischemia: Deficiency of blood supply to an organ or tissue.
Jaundice: Liver inflammation that causes congestion and body yellowing in general.
Keratinocytes: The epidermal cell that synthesiseskeratin.
Kibes: Foot swellings, a chapped or ulcerated chilblain, especially on the heel.
Lankness: Meager.
Laryngitis: Inflammation of the mucosa lining larynx that causes hoarseness.
Laxative (Aperient or Aperitives): An n agent that stimulates the evacuation of soft, formed stools.
Lenitive: A medicine or application that has the quality of easing pain or protecting against the action of irritants.
Leprosy: Hansen's disease; a chronic granulomatous infectious disease caused by *Mycobacterium leprae.*
Leucodermia: Local or total absence of pigmentation in the skin.
Leucorrhea: White discharge from the vagina.
Leukemia: Blood cancer disease.
Lithontriptic: Dissolving or destroying stone in the bladder or kidneys.
Liver coughs: Liver diseases including hepatitis.
Liver oxidative stress: Oxidative Stress: A condition that is created in the liver when there are more free radical atoms and/or molecules than antioxidants to neutralize them.
Lotion: A medical liquid for external uses.
Lues: An old name for syphilis, a sexually transmitted disease (STD) that has been around for centuries and is caused by Treponema.
Lung disorders: Any problem in the lungs that prevents the lungs from working properly.
Lupus: A chronic inflammationof connective tissue with skin leasions, wolf.
Luteotropic: Stimulating formation of the corpus luteum.
Lymphatic diseases: Diseases of lymph vessel.
Lymphocytic leukemia: An uncontrolled proliferation and accumulation of mature B lymphocytes. The symptoms result from bone marrow failure.
Maceration: Softening of a solid material by soaking in water.
Malformed fetuses: Abnormal shape or structure of ababy from third month until birth.
Mange: Animal scabies.
Massage: An old and modern curing method used in the bath, for which the patient sits in the hottest place in the bath and on a hot stone or plate. Once excessive perspiration has started, the patient can then be massaged using a rough cloth garment.
Mastitis: Inflammation of the breast.
Medicated plaster A medical mixture in a paste form that can be applied to the infected body parts and stuck on at body temperature.
Melanoma: Vitamin tumor is a type of cancer that develops from the pigment-containing cells known as melanocytes. Melanomas typically occur in the skin, but may rarely occur in the mouth, intestines, or eye.
Melliferous: Yielding or producing honey.

Meningitis: Inflammation of membranes that surrounded the brain, lead into unconseousness and death.
Menopausal syndrome: The cessation of menstrual activity which occurs between the ages of 45 and 50, characterized by menstrual irregularity, hot flushes, irritability, increased weight, osteoporosis and atrophy of female tissues.
Menstrual obstructions: Blockage in the flow of menstrual fluid.
Menstruation: Monthly period in women that is associated with the excretion of large amounts of blood from the uterus.
Metabolism: The ultimate physical and chemical operations that occur in the body and help its continued growth and function.
Metastases: Distal spread of a malignant cell either through the blood or a lymphatic vessel along a serosal membrane.
Migraine: A pain and headache in the half of the head that is associated with disturbed sight and nausea.
Miliaria: An inflammatory disorder of the skin that is characterized by redness, eruptions (as of vesicles), and burning or itching due to blockage of sweat gland ducts.
Mineralocorticoid: A qadrenocortical hormone that influence sodium and potassium metabolism.
Molluscicides: A chemical used to kill or control snails and slugs, some of which are intermediate hosts of parasites of medical importance to man.
Moxibustion: A form of heat therapy in which dried plant materials called "moxa" are burned on or very near the surface of the skin.
Mpathomimetics: Simulating sympathetic nervous action in physiological effect or causing a physiological effect similar to that produced by stimulation of the sympathetic nervous system.
MRC-5 (human pulmonary embryonic fibroblasts): A diploid human cell culture line composed of fibroblasts derived from lung tissue of a 14 week old aborted caucasian male fetus.
Mucilage: A gelatinous complex carbohydrate that is released from certain plant species.
Mucorrhea: Mucus secretions resulted in pancyrias cancer or mucus dysentery.
Mucous membrane (Mucosa): The moist membrane that is enclosing many ducts and niches in the body including the digestive and resperatory channels.
Mucus: Fine secretion that protects mucus membrane that mainly contains glycoprotein.
Muscle relaxant: Any drug which relaxes the muscles and may be used to treat muscle spasms and muscle pain.
Musk perfumes: Musk is a substance with a strong smell which is used in making perfume.
Mutagenicity: Having power to cause mutation or the capacity to induce mutations.
Myalgia: Pain in the muscles or within muscle tissue.
Myopia: Short sight in which parallel rays entering the eye focus in front of the retina.
Narcotic: A drug which relieves pain and induces sleep when used in medicinal doses.
Nausea: The condition of feeling sick and of needing to vomit.
Neoplasm: Abnormal growth of tissue caused by the rapid division of cells that have undergone some form of mutation.
Nephritic: Renal, referring to kidneys or to diseases of the kidneys.
Nephritis: Kidney inflammation.
Nervine: A substance which has the quality of acting upon or affecting the nerves or the nervous system, having a soothing or calming effect and calming the nervous excitement.
Neuralgia: Pain occurring along the nerve or severe pain in the course of the distribution of a nerve due to irritation or damage to a nerve.
Neuroprotective: Serving to protect neurons from injury or degeneration.
Neurotransmitter: A chemical that is released from a nerve cell which thereby transmits an impulse from a nerve cell to another nerve, muscle, organ, or other tissue. A neurotransmitter is a messenger of neurologic information from one cell to another.
Nociceptive: Capable of appreciation or transmission of pain.
Numbness: No feeling in some part of the body. One might, for example, experience numbness in the foot after sitting with it tucked under leg for an hour, and it can also be a symptom of various illnesses and conditions.
Nyctalopia: A condition of the eyes in which vision is normal in daylight but abnormally poor at night or in a dim light.
Ophthalmia: Inflammation of the conjunctiva or the eyeball.
Ophthalmic: Relating to or situated near the eye.
Ophthalmologic disorders: Ophthalmic disorders are associated with the phenotype of Down syndrome including strabismus, cataracts, and refractive errors potentially resulting in significant visual impairment.
Optic nerve: Either one of the second pair of cranial nerves, consisting of sensory fibers that conduct impulses from the retina to the brain. The optic nerve carries the impulses formed by the retina, the nerve layer that lines the back of the eye.
Osteoporosis: Thinning of the bones, with a reduction in bone mass, due to the depletion of calcium and bone protein.
Otitis: Inflammation of the middle ear characterized by the accumulation of infected fluid in the middle ear, bulging of the eardrum, pain in the ear and, if eardrum is perforated, drainage of purulent material (pus) into the ear canal.

Palpitation: An unusually or abnormally rapid or violent beating of the heart.
Palsy: Any of a variety of atonal muscular conditions characterized by tremors of the body parts, as the hands, arms, or legs, or of the entire body.
Paralysis: Paralysis that affects the body's side or other part of the body.
Parkinson's disease: A case of nerve loosening or relaxation that causes a loss of control and results in the continuous uncontrolled motion of some organs such as hands, foot, head and eyes.
Parthenolide: An active component in feverfew shown to have anti-tumor activity, inhibition of DNA synthesis, and inhibition of cell proliferation in different cancer cell lines.
Paste: An old form of drug; the medical substance is placed on a paste spread over or a cloth garment or leather and then placed on the tumours or places of ailments or congestions in order to degrade or relieve them.
Pectin: A group of acidic polysacharides found in plant that form jelly with sugar in normal conditions.
Pectoral: A medicine for diseases of the chest organs, especially lung diseases.
Peptic ulcer: The removal or scarification in the mucus membrane enclosing the digestive tract because of acidic digestive secretion.
Perinatal: Pertaining to the period immediately before and after birth. The perinatal period is defined in diverse ways. Depending on the definition, it starts at the 20th to 28th week of gestation and ends 1 to 4 weeks after birth.
Pharmacist: The eligible person who registered and examined for preparation and prescribing the drugs.
Pharmacopoeia: A formal publication that includes a list of the drugs and details on their formulations, shapes or designes, standard level of the product, dose and its uses.
Pharyngitis: An inflammation of the pharynx, which is in the back of the throat. It is most often referred to simply as a "sore throat." Pharyngitis can also cause scratchiness in the throat and difficulty swallowing.
Phlebitis: Inflammation of a vein, often occurring in the legs and involving the formation of a thrombus, characterized by swelling, pain, and change of skin colour.
Phlegm: Thick mucus in the nose and throat secreted in the respiratory passages and discharged through the mouth, especially that occurring in the lungs and throat passages and produced when one has a cold.
Pimples: A small, usually inflammatory swelling or elevation of the skin; papule or pustule.
Pineal and pituitary glands: The pineal gland, also called the pineal body or epiphysis cerebri, is a small cone-shaped structure that extends posteriorly from the third ventricle of the brain. The pituitary gland or hypophysis is a small gland about 1 centimeter in diameter or the size of a pea. It is nearly surrounded by bone as it rests in the sella turcica, a depression in the sphenoid bone. The gland is connected to the hypothalamus of the brain by a slender stalk called the infundibulum.
Pituitary gland: An important gland in the body often referred to as the 'master gland', because it controls several of the other hormone glands
Pityriasis: Any of various skin conditions of humans or domestic animals marked by dry scaling patches of skin.
Plaster: A drug mixture in a paste form which can be applied on the infected body part and stuck on at body temperature.
Platelet aggregation: The clumping together of platelets in the blood. Platelet aggregation is part of the sequence of events leading to the formation of a thrombus (clot).
Pleurisy: Lung inflammation in the lung wall that is accompanied with pain in respiration and coughing.
Pneumonia: An acute disease that is marked by the inflammation of lung tissue accompanied by infiltration of alveoli and often bronchioles with white blood cells (such as neutrophils) and fibrinous exudate; characterized by fever, chills, cough, difficulty in breathing, fatigue, chest pain, and reduced lung expansion, and is typically caused by an infectious agent (such as a bacterium, virus, or fungus).
Poisonous plant: A plant or a part of the plant that causes toxicity and can be harmful when used externally or internally.
Poultice: A soft composition, such as bread, bran, or a mucilaginous substance, to be applied to sores, inflamed parts of the body, so as to relieve them, or a moist warm garment or pad applied to the infected body organ or part.
Profuse menstruation: Heavy menstrual bleeding of a total menstrual flow >80ml per cycle, or soaking a pad/tampon every 2 hours or less. Excessive bleeding can lead to anemia which presents as fatigue, shortness of breath, and weakness.
Prolapsed uterus: A uterus that has moved from its normal position in the abdominal cavity into a different position, usually a lower position.
Pruritus: Itching. It can be associated with a number of disorders, including dry skin, skin disease, pregnancy, and, rarely, cancer.
Psoriasis: A genetically programmed inflammatory disease that primarily affects the skin in about 3% of individuals in the United States. Psoriasis is characterized by skin cells that multiply up to 10 times faster than normal. When these cells reach the surface and die, raised, red plaques covered with white scales form. Psoriasis begins as a small scaling papule. When multiple papules coalesce, they form scaling plaques. These plaques tend to occur in the scalp, elbows, and knees.
Puke: Vomit.
Pulmonary consumption: (Pathology) a communicable disease caused by infection with the tubercle bacillus, most frequently affecting the lungs (pulmonary tuberculosis). Also called: consumption *or* phthisis Abbreviation: TB.

Pulmonary disease: Any abnormal condition of the respiratory system, characterized by coughing, chest pains, dyspnoea, hemoptysis, sputum production, stridor, or adventitious sounds. Pulmonary diseases (such as emphysema or chronic bronchitis) are characterized by chronic typically irreversible airway obstruction resulting in a slower rate of exhalation (COPD).

Pulmonary hemorrhage: An acute bleeding from the lung, from the upper respiratory tract and the trachea, and the alveoli.

Pulmonary oedema: Fluid accumulation in the tissue and air spaces of the lungs.[1] It leads to impaired gas exchange and may cause respiratory failure. It is due to either failure of the left ventricle of the heart to remove blood adequately from the pulmonary circulation (cardiogenic pulmonary edema), or an injury to the lung parenchyma or vasculature of the lung (noncardiogenic pulmonary edema).

Pulmonary troubles: Lung problems.

Pulmonary tuberculosis: A contagious, airborne infection that destroys body tissue. Pulmonary TB occurs when *M. tuberculosis* primarily attacks the lungs. However, it can spread from there to other organs. Pulmonary TB is curable with an early diagnosis and antibiotic treatment.

Purgative: A material that evacuates the abdomen through diarrhoea and at a stronger and faster degree than laxative. Loosens the stool, sometimes vigorously.

Rabies: An acute virus disease of the nervous system of mammals that is caused by a rhabdovirus (species *Rabies virus* of the genus *Lyssavirus*), usually transmitted through the bite of a rabid animal and that is characterized typically by increased salivation, abnormal behaviour, and eventual paralysis and death when untreated.

Radiculitis: Inflammation of a spinal nerve root.

Recumbency: Lying down; reclining; leaning.

Renal failure: Sudden and often temporary loss of kidney function. Also called acute kidney failure, as opposed to chronic renal failure.

Rennet: The lining membrane of the fourth stomach of a calf or of the stomach of certain other young animals.

Resolvent: A medicinal substance that reduces inflammation or swelling, serving to dissolve or separate something into its elements.

Retinopathy: Any disease of the retina, the light-sensitive membrane at the back of the eye. The type of retinopathy is often specified, such as arteriosclerotic retinopathy, diabetic retinopathy, or hypertensive retinopathy.

Rheumatism: Any disorders appeared as pain in joints and musceles.

Rosin: It is a brittle, transparent, glassy solid insoluble in water but soluble in a number of organic solvents.

Rotavirus: An infection that causes diarrhoea. It is the most common cause of diarrhoea in infants and children worldwide.

Rubefacient: Materials lead to local agitation and cause swelling and warm the skin. Produces skin redness from dilation of the capillaries and an increase in blood circulation.

Ruminant: A type of animal that brings up food from its stomach and chews it again, for example a cow, sheep, or deer; animals which have the ability to regurgitate and have four parts to their stomach are called ruminants.

Salivation: Secretion of saliva from specific glands in the mouth and especially in higher amounts.

Saponin: Any group of plant glycosides that form soap foam in water.

Scabies: A contagious skin disease occurring especially in sheep and cattle and also in humans, caused by the itch mite, *Sarcoptes scabiei*, which burrows under the skin.

Scarfskin: The outermost layer of the skin; epidermis.

Scarlatina: Also called scarlet fever, a disease caused by infection with group A streptococcal bacteria that occurs in a small proportion of people with strep throat.

Sciatica: Severe pain and and weakness in the lowest part of the back in the outer side of the leg and foot and along the longest nerve in the body.

Scleroderma: A disease of connective tissue that causes scar tissue (fibrosis) to form in the skin and sometimes also in other organs of the body. Scleroderma is classified into diffuse and limited forms. Diffuse scleroderma affects many internal and external areas of the body, including the skin of the entire body, the bowels, and the lungs. Limited scleroderma affects only certain body sections.

Scrofula: Primary tuberculosis of the lymphatic glands, especially those of the neck.

Scrofulous sores: A form of tuberculosis affecting the lymph nodes, especially of the neck, that is most common in children and is usually spread by unpasteurized milk from infected cows. Also called struma.

Scrofulous swellings: Swellings of primary tuberculosis of the lymphatic glands in the neck.

Scurvy: A disease resulting from a deficiency in vitamin C, the symptoms of which include spongy gums, loosening of the teeth, and bleeding into the skin and mucous membranes.

Sedative: An agent used for making a patient drowsy or soothed, but not strong enough to induce sleep.

Senile cortical: Relating to, exhibiting, or characteristic of old age senile weakness especially: exhibiting a loss of cognitive abilities (such as memory) associated with old age. Age-related changes of cortical excitability and connectivity in healthy humans.

Sepsis: A life-threatening illness caused by your body's response to an infection. Your immune system protects you from many illnesses and infections, but it's also possible for it to go into overdrive in response to an infection. Sepsis develops when the chemicals the immune system releases into the bloodstream to fight an

infection cause inflammation throughout the entire body instead. Severe cases of sepsis can lead to septic shock, which is a medical emergency.

Septic spots: These are white or yellow pus-filled spots. They can occur anywhere, but are common around the nappy area or in neck, arm or leg creases. They look like small blisters and the skin around them may be red and weepy. Antibiotics may be needed to clear the infection and stop it spreading. Talk to your midwife, Plunket nurse, or doctor if you notice these spots.

Serology blood group: The process of identifying a person's blood group by serologic testing of a blood sample. Also called blood typing.

Sialagogue: Any drug or agent that can stimulate the flow of saliva.

Sinusitis: Inflammation of the lining membrane in any of the hollow areas (sinuses) of the skull around the nose.

Skin whitening: Regarded as being any means of trying to precisely lighten the pigmentation of the skin. The applications to do this are usually topical, but they may also include lasers as well as surgical procedures.

Somatities: Inflammation of the mouth.

Soporific: Drugs that are a class of psychoactives whose primary function is to induce sleep.

Spasmodic: Uncontrolled muscle contractions.

Spastic colon: Irritable bowel syndrome; also a colon affected with spasms or an increase in spontaneous contractions (motility) of muscles in the small and large intestines associated with IBS.

Splenomegaly: Abnormal enlargement of the spleen. Splenomegaly is a sign of an underlying condition, such as severe liver disease, leukemia.

Splinters: A very thin, sharp piece of wood, glass, or other hard substance.

Sputum: Saliva mixed with mucus coughed up from the respiratory tract.

Staggering: Walking unsteadily or moving shakily forward or shaking deeply, or arranging events so they do not happen all at once. Occurs when drunk.

Stimulant: An agent that excites or quickens the functional activity of the tissues, giving more energy.

Stomach ache: A pain in the stomach.

Stomachic: An agent that strengthens, stimulates or tones the stomach, or a plant that overcome stomach disorders and helps with digestion. Improves stomach function and increases appetite.

Stomatitis: A sore or inflammation inside the mouth. The sore can be on the cheeks, gums, inside of the lips, or on the tongue.

Stranguary: A slow and painful spasmodic discharge of urine drop by drop or a condition caused by blockage or irritation at the base of the bladder, resulting in severe pain and a strong desire to urinate.

Struma: A swelling in the neck due to an enlarged thyroid gland.

Styptic: Contracts tissue to seal injured blood vessels and promotes coagulation.

Stysties: A sty is a red, painful lump near the edge of your eyelid that may look like a boil or a pimple. Sties are often filled with pus. A sty usually forms on the outside of your eyelid. But sometimes it can form on the inner part of your eyelid.

Sudorific: An agent used to induce perspiration (sweat).

Suspending agent: A liquid in which a solid substance can be held in suspension.

Sympathomimetics: Simulating sympathetic nervous action in physiological effect. Or causing a physiological effect similar to that produced by stimulation of the sympathetic nervous system.

Syphilis: A sexual disease resulting from certain bacteria.

Tannin: A group of complex compounds found in many plants containing acids, phenols and glycosides.

Tetanus: An acute infectious disease characterized by tonic spasm of voluntary muscles especially of the jaw and caused by the specific toxin of a bacterium (*Clostridium tetani*) which is usually introduced through a wound.

Thorns: A sharp rigid process on a plant; especially one that is a short, indurated, sharp-pointed, and leafless modified stem.

Throat catarrh: Excessive discharge or build-up of mucus in the throat, associated with inflammation of the mucus membrane.

Thrombosis: Presence of blood clots in blood veins or in the heart.

Thrombus, Antithrombotic: A material that prevents blood coagulation.

Thymoma: A rare type of tumor that is the most common tumor type located in the area in the centre of the chest between the lungs (the anterior mediastinum).

Tincture: A medical extract in liquid of alcohol or alcohol and water. An herbal tincture is a liquid extraction of plant compounds, typically with an ethanol percentage of at least 25–60%.

Tinnitus: A sensation of noise (a ringing or roaring) that is caused by a bodily condition.

Tonic: A medicine that strengthens and invigorates, and hence restores normal tone to tissues or stimulates the appetite.

Tonsillitis: Inflammation of one or both tonsils, typically as a result of infection by a virus or bacteria.

Toxic: Toxic material or a material that causes toxicity.

Tranquillizer: A material or a plant that contains substances that overcome ailments, sedate the nerves, and remove fatigue.

Trembling: Shake involuntarily with quick, short movements, as from fear, excitement, weakness, or cold; quake; quiver.

Tremor: Shaking, non-violent trembling, and shivering.
Trifoliosis: Photosensitive dermatitis caused by the ingestion of burr trefoil (*Medicago polymorpha*).
Turpentine: Also called spirit of turpentine, oil of turpentine, and wood turpentine. It is a fluid obtained by the distillation of resin obtained from trees.
Tympanities: Distension of the abdomen due to presence of gas or air in the intestine or in the peritoneal cavity.
Tympanitis: Inflammation of the middle or inner ear, or the eardrum.
Ulcus cruris: Occurs frequently. It is a defect on the lower legs due to chronicle venous insufficiency.
Urinary calculi: A stone in the urinary tract. The word 'calculus' in Latin means 'a pebble.' Pebbles were once used for counting, from which came the mathematical field of calculus. A urinary calculus is a pebble in the urinary system.
Urolith: A calculus in the urinary tract.
Uvula: The small, fleshy, conical body projecting downward from the middle of the soft palate, which hangs above the throat.
Varicose veins: The case where the surface veins in the legs are extended, swollen, wrinkled and tortuous.
Varroosis: An external parasitic mite that attacks the honey bees *Apis cerana* and *Apis mellifera*. The disease of honny bees caused by the mites.
Vascular disorders: Problems with arteries and veins. Arteries are pipes that bring oxygen-rich blood from the heart to the fingers. Veins are pipes that return the used blood back to the heart and lungs. At the wrist, the radial and ulnar arteries bring blood into the hand. These arteries connect into two arches that branch out to supply blood to each of the fingers.
Vasoconstrictor: Materials that constrict blood vessels and thus reduce the blood flow and raise blood pressure.
Vasodilator: Materials that stretch/dilate the blood veins and widen them and thus increase blood flow and reduce blood pressure.
Venereal disease: A disease that is contracted and transmitted by sexual contact, caused by microorganisms that survive on the skin or mucus membranes, or that are transmitted via semen, vaginal secretions, or blood during intercourse.
Veno-occlusive disease: Hepatic veno-occlusive disease (hepatic VOD) is a condition resulting from toxic injury to the hepatic sinusoidal capillaries that leads to obstruction of the small hepatic veins.
Vermicide: A substance or agent used to kill worms, especially a drug used to kill parasitic intestinal worms.
Vermifuge: Expels worms.
Vernal ague: Ague is a fever (such as malaria) marked by paroxysms of chills, fever, and sweating that recur at regular intervals occurring in the spring.
Vesicant: An agent (such as a chemical weapon) that induces blistering or a substance that causes tissue blistering. A term often used in connection with large-scale chemical burns but may also includes naturally occurring substances in plants.
Vitamins: A group of different important materials that are essential in very small quantities for growth, health and development; they cannot be produced by the body but are found in nature in some plants and in food of animal origin.
Vitiligo: A long-term problem in which growing patches of skin lose their color. It can affect people of any age, gender, or ethnic group.
Vulgaris: Means common. The most common form of acne is "acne vulgaris", meaning "common acne". Acne vulgaris is an inflammatory disease of the skin, affecting a large percentage of people, especially during puberty. The typical acne lesions can be categorized into comedones, papules, pustules, nodule and inflammatory cysts.
Vulneraries: A plant that cures inflammation and wraps the wounds and skin disorders. It heals wounds by increasing cell growth and repair.
Vulnerary: Heals wounds by increasing cell growth and repair.
Wart: A horny projection on the skin, usually on the extremities, produced by a proliferation of the skin papillae and caused by any of the numerous human papillomaviruses.
Wens: A benign encysted tumor of the skin, especially on the scalp, containing sebaceous matter; a sebaceous cyst.
Whitlows: An inflammation of the deeper tissues of a finger or toe, especially of the terminal phalanx, usually producing suppuration.
Whooping cough: An infectious respiratory disease especially of children caused by a bacterium (*Bordetella pertussis*) and marked by a convulsive spasmodic cough sometimes followed by a crowing intake of breath, called pertussis.
Wide-spectrum: the wide range of chemical compounds or constituents that are naturally occurring in a certain part of a particular species of plant.
Wilson's disease: A hereditary disease that is characterized by an excessive accumulation of copper in the body (as in the liver or brain).
Wound healing: A difficult and slow process, so an adequate treatment and optimized follow up are of the highest importance.

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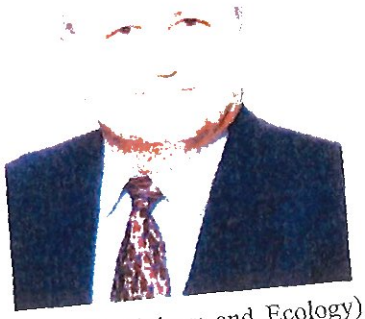
ABOUT THE AUTHOR



Dr Qasem is a Professor of Weed Science (Weed Physiology and Ecology) in the Faculty of Agriculture at the University of Jordan, Amman, Jordan. His education includes a Bachelor of Science (B.Sc.) degree in Agricultural Sciences from Aleppo University, Syria in 1976, a Master of Science (M.Sc.) degree in Weed Science from the Department of Plant Production and Protection, Faculty of Agriculture, University of Jordan in 1982, and a Doctor of Philosophy (Ph.D.) degree in Plant Physiology/Weed Science from the Department of Biological Sciences, University of London, UK, in 1987.

Dr Qasem's main duties include the planning and conduction of scientific research (Basic and Applied) and teaching in the fields of Weed Science, Plant Physiology and Medicinal and Aromatic Plants. Dr. Qasem is the author of more than 150 research papers and book chapters published in refereed international journals and scientific books. He is the author of four textbooks: *Plant Science*, *Medicinal and Aromatic Plants*, *Weeds and their Control* (theoretical) and *Weeds and their Control* (practical). He has contributed to many regional and world congresses, and has published more than 60 scientific research reports and paper abstracts. Dr Qasem has supervised and directed thesis work for many graduate students, and has contributed as an examiner for many students in Jordan and abroad. He was the recipient of the Shoman Foundation Prize for Youth Arab Researchers in Agricultural Science for the year 1992, the Hisham Hijjawi Award in Agriculture and Water in 1996, the Fulbright Award for Scholar Exchange in 1999, earned One-Year Seniority in Rank and Salary at the University of Jordan for his outstanding scientific research achievements and teaching excellence in 1997, the University of Jordan Prize for the Best and Outstanding Academic Book in Applied Sciences in 2004, the Agricultural Engineers Association Prize in Publication, Scientific Research and Extension in 2006, and the Distinguished Researcher Prize in Agricultural Sciences (for research work from 2000-2010) from the Ministry of Higher Education and Academic Research, Amman, Jordan in 2010.

Dr Qasem is a founder of the International Allelopathy Society (IAS), the Asian Allelopathy Society and Near East Weed Science Society, a life member of the International Weed Science Society (IWSS), a member of the Weed Science Society Japan, the International Parasitic Weed Society, the Arab Society for Plant Protection and the EWRS Working Group/Weed Management in Irrigated Vegetables. He is an editor of 35 international journals. Dr Qasem has been invited and travelled to present his work all over the globe.